



**Town of Brewster**  
**Community Preservation Committee**  
2198 Main Street  
Brewster, Massachusetts 02631-1898  
(508) 896-3701 x 133  
Fax (508) 896-8089



## APPLICATION FOR COMMUNITY PRESERVATION ACT FUNDING

**Date Application Submitted:** January 11, 2016

**Name of Project Applicant:** Cape Cod Repertory Theatre

**Name of Co-Applciant(s), if applicable:** \_\_\_\_\_

**Name of Contact Person:** Janine Perry

**Contact Person's Mailing Address:** PO Box 1305 Brewster, MA 02631

**Contact Person's Daytime Phone Number:** 508-896-1808 (work) or 774-994-0354 (cell)

**Contact Person's email Address:** janine.perry@verizon.net

**Proposed Project Name:** Historic Crosby Barn Restoration

**Project Address (or assessor's parcel ID):** 3299 Main Street, Brewster MA

**Project Synopsis:**

This is a Historical Preservation Proposal for \$225,000 from Brewster's Community Preservation Act funds to support the first phase of a project to rehabilitate the Crosby Barn on the Isaac F. and Sarah Crosby Historic Site occupied by Cape Cod Repertory Theatre Co. (Cape Rep). The Crosby Barn is listed on the State Register of Historic Places and is eligible for listing on the National Register of Historic Places (See Massachusetts Historical Commission 1992 letter, Attachment 1).

**Category:**    **Open Space**    **x Historic Preservation**    **Recreation**    **Community Housing**

**CPA funding requested \$** 225,000                      **Total Cost of Proposed Project \$** 484,890

**Cape Cod Repertory Theatre Company, Inc. d/b/a Cape Rep Theatre  
Application to the Brewster Community Preservation Committee  
Crosby Barn, Phase I: Saving the Structure, Foundation & Basement, Septic**

**1. Project description**

**This is a Historical Preservation Proposal for \$225,000 from Brewster's Community Preservation Act funds to support the first phase of a project to rehabilitate the Crosby Barn on the Isaac F. and Sarah Crosby Historic Site occupied by Cape Cod Repertory Theatre Co. (Cape Rep). The Crosby Barn is listed on the State Register of Historic Places and is eligible for listing on the National Register of Historic Places (See Massachusetts Historical Commission 1992 letter, Attachment 1).**

In 1983, the Commonwealth of Massachusetts acquired this 45 acre site for recreation and conservation purposes from Camp Monomoy which had occupied the site since 1926. In so doing, it preserved the existing remnants of the Crosby family homestead and the heart and soul of the once vibrant and extensive summer camp economy on Cape Cod.

Cape Rep is a 501(c)(3) non profit, tax exempt educational corporation (Attachment 2) which successfully sought legislation to secure a long term lease from the Commonwealth until the year 2049. By the terms of its lease, Cape Rep has promised to rehabilitate, preserve and protect 7.5 acres and four structures on this site and bring new life to the site by creating a theater for the performing arts. We have completed three phases of this effort: the rehabilitation of the camp chapel into the 200-seat Outdoor Theater in 1992, the conversion of the camp dining hall into the 129-seat Indoor Theater in 1997 and the renovation and expansion of the historic Crosby Cape House into artist housing in 2010. The latter project was accomplished in part with \$200,000.00 from CPC funds voted at the 2008 Annual Town Meeting.

It has been our vision to rehabilitate these structures and the surrounding grounds into a campus of programming and education in the performing arts for local artists and the cultural enrichment of our community. From children's programming in the Outdoor Theater to adult main stage production in the Indoor Theater, we provide programming to all ages. We are the only professional theater on Cape Cod that serves local artists. The rehabilitation of the Barn was meant to complete this campus vision and provide educational and performance space to serve that mission. It will be a beautiful open space for instruction, rehearsal and performance, workshops, receptions and fundraising events.

Built in 1889 by Isaac F. and Sarah Crosby, the Barn is a 72' x 34' (2,592 sq. ft.) single story barn with no foundation. It was formerly sited just a bit north and west of the Crosby Cape House on Rte. 6A and moved to its present location by Camp Monomoy in the 1920s. Historical photos (Attachment 3) demonstrate the changes made by the Camp to the structure over time.

The Barn has functioned in many different capacities during its 129 years: as a barn for the Crosby family's farm and racing stables; as a commissary, for arts and crafts, theatrical productions and showing movies for Camp Monomoy; and as essential storage both for Nickerson State Park from 1983-1996 and now for Cape Rep's theatrical assets, including platforms, flats, scenery and props. These materials, when reconfigured and re-imagined by designers, create new settings for each theatrical production. We estimated recently that we save \$20,000 per year in materials and \$10-15,000 in labor by recycling these stored assets. We also

share these with many of the other performing arts organizations on Cape Cod, providing a means for them to save money as well. Lifting up the Barn and putting in a full basement foundation will allow us to move these theatrical assets to the basement.

In 2014, Cape Rep began a feasibility study of the Barn in preparation for this effort when a structural engineering analysis resulted in the opinion that the Barn's structure was threatened and in need of immediate rehabilitation (Attachment 4). In January 2015, braces were installed to prevent collapse in the event of high winds and heavy snow (Attachment 5) but the structure is in need of immediate and permanent rehabilitation. This application is to help pay for saving the Crosby Barn. Meanwhile, planning for complete interior and exterior historical preservation and rehabilitation for our ultimate vision is proceeding and will be accomplished with a second phase.

The program to save the Barn is presented in the concept and bid set plans of the structural engineer. Existing condition plans are also attached (Attachment 6, 7 & 8). The Barn, currently without a foundation, will be lifted and set back down on a new basement foundation. Structural repairs will be made with steel and timber, the building will be made tight to weather and the septic system, previously engineered, will be installed. We have also submitted (Attachment 9) a letter from Jeffrey Harris, Preservation Planner at the Department of Conservation and Recreation, supporting this project. DCR is the agency of the State in charge of this property and is our "landlord."

**2. The Crosby Barn is listed on the State Register of Historic Places and eligible to be listed on the National Register of Historic Places (see 1992 letter from the Massachusetts Historic Commission and attached 2014 Letter from the Department of Conservation and Recreation Preservation Planner, Jeffrey Harris, Attachments 1 and 9)**

**3 and 4. CPC Goals/Criteria: Describe how this project accomplishes the goals and objectives of the CPC and What are the Community Benefits for this project? We have combined our answers to avoid repetition.**

This project application is for the eligible funding category of preservation and rehabilitation of Historic Resources. See answer to #2 above to establish its listing on the State Register. All work under this project must be reviewed by Jeffrey Harris, Preservation Planner at DCR and by the MHC to ensure that the Secretary of Interior and State's policies and practices for protection of historic assets are met.

**What is the historical significance of the site and of the Crosby Barn in particular?**

The Crosby family, beginning with Tully Crosby, is one of the founding families in Brewster history. The immediate patriarch of the land that later became occupied by Isaac F. Crosby (Isaac F. and Sarah Crosby were the last of the Crosbys to occupy the site) was Nathan Crosby whose homestead comprised not only this site but also the site we know as the "Crosby Mansion" now owned by the Commonwealth and leased to the Town of Brewster. By blood and by marriage, the Crosby and Nickerson families together gave the entire eastern portion of the Town of Brewster its cultural and economic identity. Nathan Crosby's sons, Nathan Jr. and Isaac and their sons Albert and Isaac F. respectively, engaged in business together as merchants and importers.

Also known as the Isaac F. Crosby homestead, the house and surrounding land was, in the late 19<sup>th</sup> century, Isaac Crosby's home and stable for the training of his trotting horses. In 1889, newspapers ran notices of his activities: In 1889, he built a state of the art stable for his horses and completely renovated the homestead. He hired the construction firm of John Hinckley for this work, the same firm hired by his cousin Albert to build the Crosby Mansion. Newspaper accounts also take regular note of the successes and failures of Isaac's horses at the Barnstable Fair Ground races. Brewster assessor records reflect a steady accumulation of wealth, of horses, buildings, real estate and personal property. But the late 1890s were a watershed for the entire Crosby family in East Brewster. Both Albert and Isaac were caught in the economic problems caused by the depression in the late 1890s. Isaac's real estate passed out of family hands in the early 20<sup>th</sup> century to satisfy debts. The Crosby Cape House passed into the hands of resort speculators and a short time later, to the founders of Camp Monomoy.

The Robert Delahanty family purchased the property in 1926 and established Camp Monomoy. The Crosby Cape House was occupied by camp counselors but also let out to various other enterprises including a restaurant and, at a later time, a jewelry store. The descendants of the Delahantys, now owners of the remaining camp property known as the Cape Cod Sea Camps, have an extensive photographic collection of Camp Monomoy: its activities, its generations of young campers and the structures on the property.

In 1983, the Commonwealth of Massachusetts and the Camp owners agreed to a friendly eminent domain taking and the buildings and grounds passed into the public domain. It remained dormant until Cape Rep submitted a proposal for its rehabilitation in 1991-92.

### **3. and 4.: CPA goals and Criteria and Community Benefits:**

- **This project preserves Brewster's unique character.**

We work to preserve and protect this property and the buildings under our care. We do this because we believe that what was once a piece of this Town's cultural and economic past can be and will be lost forever without our efforts to preserve it. The Crosby family and Camp Monomoy Summer Camp are each represented in this land and these structures. This project is a unique opportunity to preserve the land and the essence of its history. It brings a new and useful life to the land and its buildings so that the past may live for the future. The days of Brewster's farms and founding families have passed, the vast network of summer camps on the Cape died in the 1970s and what camps remain are rare reminders of days gone by. But, what remains of both is our responsibility to preserve.

- **Unquestionably, this will boost the vitality of this community because we are Brewster's own and only performing arts facility.**

- We spend money in the local economy.**

We now pump \$600,000.00 into the local economy: We hire over 60 local artists and purchase from over 30 local businesses everything from wood for sets to office supplies, fabric for costumes. We have five year-round staff members and from 15-20 seasonal employees, all who utilize Brewster's services from coffee shops to bed and breakfasts to hardware stores.



**It attracts and increases the amount of tourist dollars spent at local businesses.**

Over the past several years, attendance has exploded as our reputation has grown. In 1997, 3,649 people attended our productions; last year, 20,800 did. In addition we have 725 season subscribers to our programming and anticipate more as we continue to grow.

We have most certainly provided a major portion of tourist entertainment in Brewster. Our summer children's shows in the Outdoor Theater, the only Outdoor Theater on Cape Cod, have attracted full houses and become a tradition for families who visit Cape Cod. Children return year after year and have collections of our programs signed by actors playing their favorite characters.

Our region depends heavily on tourist income as a principal source of sales and revenue, and the entertainment opportunities provided by Cape Rep, a destination for tourists, are an important part of Brewster's economy, attracting guests to other local businesses and attractions.

• **It will enhance the quality of life for Brewster residents,** giving it a place to recreate, to imagine a life past and participate in a present life of creativity and expression. The fully restored Indoor and Outdoor Theaters, Cape House and Barn are community resources. Together, they form a performing arts campus that is unique on Cape Cod. We believe we hold all of these buildings in the public trust for the benefit of the community.

The parcel is public and used for hiking, horseback riding, dog walking, swimming, informal ball games and other group sports. Our theater permits local schools to use the field for their recreation programs. Cape Rep also allows other non-profit groups to use our indoor and outdoor facilities for little or no cost and cooperates with the Park for community uses that serve the public's need for instruction, entertainment and recreation. And so, we provide a stewardship for this recreational resource as a benefit to the community.

Our facility provides entertainment to year-round residents and summer tourists. We bring exciting professional artists to Brewster to challenge our local company of actors, directors and technicians and enrich the lives of our audiences.

Our mission is to provide professional creative opportunities to artists from our community and to serve as stewards of the historic site housing our campus. The long-range plan of our artistic mission includes teachers, staff, technical artists, or actors to fulfill those goals. We are a home for theater professionals here on Cape Cod, and a source of training in the performing arts for artists from the local community. A constant reinvigoration of artists and a permanent staff throughout our campus will excite our audience and our community and result in a healthy restoration project and fundraising campaign to maintain it all.

• **This project will save a resource that would otherwise be threatened, the Crosby Barn.**

Again, we reiterate the fact that the Crosby Barn is at risk of failure (see Structural Engineering Report attachment 4). When restored and rehabilitated, it will be one of the few barns on Cape Cod that will be open for the public to experience. Our hope is that when it is finally completed, stepping into the Barn in the 21<sup>st</sup> century will be reminiscent of stepping into the Barn of the past.

- **This project will help leverage additional funds.**

There is no question that we need this grant to successfully execute Phase 1 and, in addition, **we consider a grant from the CPC a leadership grant. It would allow us to leverage funds from other granting agencies and foundations.** The Massachusetts Cultural Facilities Fund regards a successful CPC application as proof of community support. We have an application pending for a grant from the MCFF. Even a BCPC or BHC recommendation that has not been voted at annual town meeting is helpful. In addition, the next phase in the planning process, to rehabilitate the interior and exterior of the Barn to its final uses can, leverage grants with a successful CPC award. The support of our Town for this project legitimizes our efforts, instills confidence in our ability to reach our goal and excites others to donate to the campaign.

## **5. Community Support:**

Because our project is financially supported by a resident membership and subscription base, together numbering about 929 people, our local support is the backbone of the project. Our long range plans for this project have been communicated to our membership and to our community leadership and town boards repeatedly over the last 25 years of residence in this location. To obtain legislation for this project and then launch it in as small a community as this, we needed support from a large base: small donations from many people were important to its success. Our community banks and foundations were our biggest supporters. Local foundations such as the Edward Bangs Kelley Foundation and the John K. and Thirza F. Davenport Foundation helped us to launch this performing arts project. The late Mary Louise and Ruth Eddy (Selectwomen, Town Clerk, School Board Members, Founders of the local Historical Society and Land Trust) were instrumental in helping us get going and it is their foundation that has enabled the initial planning and seed money for all of our projects since 1991. We are really not at the beginning of fundraising any more; we are heading towards the final phases of a long project begun 25 years ago. Many have traveled with us. We have completed these renovations with enormous donations of time and materials from our community. We have raised money in every way known to charitable endeavors: bake sales, auctions, benefits, dances, dinners, personal and corporate contributions, grants and awards. We have grown from a small volunteer base of 25 people in 1991 to a community organization with over 150 volunteers. They have been loyal and will continue to be generous. We are appending to this application some letters of support (Attachment 10), other than financial, that specifically speak to the merits of this project and its importance to the community and the tourist industry.

## **6. Timeline:**

We have attached a timeline which breaks ground in October, 2016 and is completed by January, 2017. The timeline was prepared by Matt Cole, Project Manager. He has helped determine the steps needed to accommodate a work schedule that will have the least interference with our theatre's ability to function during this project. (Attachment 11). As stated above, this is part of a larger project which is still in the planning stages.

## **7. Credentials:**

Resumes of the project leadership are attached. (Attachment 12).

**Architect Preston Scott Cohen** is an internationally celebrated building designer and is former Chair and current Professor of Architecture at Harvard Graduate School of Design. He received his B.A. and Bachelor of Architecture degrees from the Rhode Island School of Design and his Master of Architecture degree from the Harvard GSD. Preston Scott Cohen, Inc. is a full service firm with a team of six architectural designers and two project architects. Commissions encompass projects of diverse scales and types including houses, educational facilities, cultural institutions and urban designs for private owners, institutions, government agencies and corporations. He is providing pro-bono architectural design and consultation for this phase of the Barn project and will be providing future work at cost. We have been working with Scott for two years and have worked through the details of an exciting concept and plan for the entire project.

**Project Manager, Matthew Cole** is Pres./CEO, of Cape Associates which is a full service homebuilder and commercial construction project management company. It is a third generation family business established in 1971. With more than 100 employees, they nurture projects from conception to final construction completion. The Project Manager will develop a plan to include final project design, cost estimate, construction timeline, and strategy for implementation of the project; He will coordinate existing team of service providers. Matt has worked with the Structural and Civil Engineers to finalize a work plan and budget for this phase of our project. He has helped determine the steps needed to accommodate a work schedule that will have the least interference with our theatre's ability to function during this project. He will continue to provide his service for the work on the Theatre building after this initial phase is complete.

**Structural Engineer, Lars Jensen, P.E.S.E.** is Founder & principal of the firm, Inghouse, PC Lars holds a Masters degree in Structural Engineering from the University of Braunschweig, Germany. For over a decade he has been providing engineering services on a wide variety of projects on the Cape & Islands, Boston & the South Shore, and throughout Massachusetts. Inghouse will provide the design of a new reinforced concrete foundation system which will include a full basement for the historic barn structure and provide the Construction Set drawings including design of temporary structural supports for the building during the building lift.

**Janine M. Perry, Producing Artistic Director**, spearheaded the drive to obtain legislation to enable the Commonwealth to enter into a long-term lease with Cape Rep, and as our first Executive Director, led the capital campaign that resulted in the restoration of the Outdoor Theater and the creation of the Indoor Theater. When Founding Artistic Director Robert Troie stepped away from the active running of the theater, Janine stepped into the role of Producing Artistic Director and we have grown enormously during her tenure. She was also very active in other Brewster non-profits, especially the Brewster Ladies' Library. A well-known and active community member of the Town of Brewster, Janine brings tremendous experience to this effort. She has advanced degrees in American History from Columbia University and a broad understanding of the history of the 7 acre site and the requirements associated with renovating state property. She has been closely involved with past renovation projects including the complete renovation of the Cape House in 2010. She is the 'go-to' person for the Project Manager and has been the spokesperson for garnering support for the project.

**Patricia Ares** is a member of the Board of Trustees and Chair of the Development Committee at Cape Rep. She is also a Grant Writer. She has 20 years experience as a former administrator of a non profit organization. She is closely involved with grant writing as well as fundraising activities. She has been a member of Cape Rep's Board of Trustees for 3 years and is a long-time resident of the area. She was instrumental in helping raise close to 1 million dollars in grant support for the Chatham Orpheum Theatre. She will actively seek grant funds for this campaign and work to establish fundraising goals, strategy and timeline for the Barn Project.

## **8. Budget**

See our project budget (Attachment 13). The sources and uses are identified as well as the basis for each figure and whether the sources are expended, on hand or projected. Our most recent financial audit, from 2014 is attached along with our 2015 Profit & Loss and Balance Sheet. (Attachments 14 and 15)

As stated earlier, this Phase, to save the Crosby Barn structurally, is part of a larger project and has been fast tracked and is an emergency. We are in the midst of preparing the program and obtaining the cost estimates for the full rehabilitation and do not have estimates available at this time.

The budget and timeline reflects our attempt to put together funding and complete the project as soon as we can. Two major sources of funding, this grant and one from the Massachusetts Cultural Facilities Fund would enable us to proceed quickly. The MCFF grant awards are expected in March, 2016.

## **9. Maintenance**

Currently, regular annual maintenance and inspection of systems in all our building are monitored and arranged for by staff from a regular schedule, budgeted and paid for from operations. Staff conducts an annual review of minor capital repairs and maintenance items and solicits bids on them. Items are prioritized and budgeted.

In the past, larger maintenance and replacement costs have been funded through three sources:

1. Donor and membership forms, our website and our programs carry requests and give options for building fund donations. The account fluctuates as major items draw upon the fund but it averages a balance of \$10,000.00 throughout the year. We know that this fund needs to grow to accommodate aging capital assets. Consequently, we have formed a committee to prepare a Facilities Replacement Plan and recommend an appropriate annual allocation in the budget.

2. Specific Fundraising Campaigns

The Outdoor Theater roof replacement(\$10,000) was funded in this manner as was a major roof replacement (\$50,000) to the Indoor Theater.

3. Grants

Grants have paid for a \$20,000.00 refurbishment of the Outdoor Theater benches and electrical service, a \$10,000 new roof on the Barn and a \$4,000 replacement HVAC system.

**Cape Rep Theatre Crosby Barn Project Budget**  
**Phase 1: Save the Barn, Foundation, Septic**

<b>SOURCES</b>	<b>Amount</b>	<b>Notes</b>
*Previously expended	25,673.00	from grants and individual donations
Eddy Foundation	32,000.00	in hand
Brotherton Foundation	15,000.00	in hand
Individual Donations	10,717.00	in hand
Massachusetts Cultural Facilities Fund Grant	176,500.00	projected
Town of Brewster Community Preservation Grant	225,000.00	projected
<b>TOTAL REVENUES</b>	<b>484,890.00</b>	

<b>USES:</b>	<b>Amount</b>	<b>Notes</b>
<b>Hard Costs</b>		
*Temporary Bracing	2,869.00	Cape Associates, completed
Barn lift, move, excavation, backfill	61,573.00	Sylvester Building Movers, Inc, bid
Concrete Foundation, Basement, Slab, damp proofing	90,107.00	GFM Enterprises, bid
Steel structural repairs	63,500.00	A1A Steel, bid
Carpentry structural repairs	36,096.00	Cape Associates, bid
Roof repairs	5,000.00	Cape Associates, bid
Basement garage door	2,500.00	Cape Associates, bid
New Chimney	13,376.00	Myette Masonry, bid
Septic System	41,100.00	GFM Enterprises, bid
Utilities	4,500.00	Project manager estimate
Electrical	15,000.00	Project manager estimate
Landscaping restoration	8,000.00	Project manager estimate
Permits, inspections, site safety, dumpster, temp. storage	12,115.00	Project manager estimate
Construction Contingency (10%)	35,000.00	Project manager estimate
<b>Total Hard Costs</b>	<b>390,736.00</b>	
<b>Soft Costs</b>		
*Structural Engineering Existing Conditions Analysis	3,880.00	Philbrook Engineering, completed
*Structural Engineer, Pre-Construction	11,629.00	Lars Jensen, Inghouse, PC, completed
Structural Engineer, Construction Drawings and Oversight	7,350.00	Lars Jensen, Inghouse, PC, bid
*Project Management, Pre-Construction	4,495.00	Cape Associates, Inc., completed
Project Management, Construction	64,000.00	Matt Cole, Cape Associates, Inc. bid
*Septic Engineering: Siting, Design, bid sets	2,800.00	J.M. O'Reilly & Associates, completed
<b>Total Soft Costs</b>	<b>94,154.00</b>	
<b>TOTAL PROJECT COSTS</b>	<b>484,890.00</b>	

\* Cape Rep Theatre spent \$25,673.00 between August, 2014 and March, 2015 in its planning & feasibility phase for structural analysis; design and bid sets for structural rehabilitation, temporary bracing; septic siting and engineering, construction services and project management.

## **Crosby Barn: History and Statement of Needs and Uses**

### **Current use: Storage**

Currently, the Barn is storage for the theater's set platforms, flats and scenery and its prop collection. All three storage uses are vital to the theater. The proximity of this storage to the scene shop and stage is also very important. Multiple daily trips to the Barn are frequent during the production season. Off site storage would not be practical.

### **Needs and uses of a rehabilitated Barn, prioritized**

1. **Storage**, as above

2. **Rehearsal and reception hall** with a sprung floor for dancing:

We currently have to find off site studio space when a performance is in progress. It is often the musical that is rehearsing that needs to be relocated because of sound problems. As most musicals have dance, the off site space has to be a floor suitable for dance to avoid injury. If the Barn were to have a main hall, and the floor was properly prepped, it would be a terrific rehearsal space. The dimensions of the open space ideally would mimic the dimensions of the stage which is 35' wide at the proscenium (with about 5' of wing space on each side) and 22' deep.

This type of open hall space would also serve many other valuable functions: receptions, meetings, small performances, recitals, play readings, workshops and the like.

3. **Two sound-proofed small classroom/rehearsal studios.** Ideally, one 12 x 12 and another, 9 x 12, would accommodate many different rehearsal and audition needs.

Other uses brought forward that are not as high on the priority list are:

Space for prop construction or technical instruction in theater arts.

## **Architectural Decisions**

### **Architectural History of Barn and Agency Review of Historical Rehabilitation Work**

The Crosby Barn (Barn) was constructed circa 1889 by Isaac F. Crosby and is on the Massachusetts Historical Register and is in the Old King's Highway Regional Historic District. Renovation of the structure is subject to review by both agencies. The owner, the Commonwealth of Massachusetts, also requires review and approval of the renovation project through its managing agency, the Department of Conservation and Recreation (DCR).

The Barn was originally sited just to the northwest of the Crosby House on Rte. 6A. It was moved by Camp Monomoy circa 1926 to its current location just to the east of Cape Rep's Indoor Theater, formerly the dining hall of Camp Monomoy. Photos demonstrate that porch wings were added on to the sides of the Barn which were subsequently closed in and a fireplace was added to the front. Doors and windows from the original side of the Barn were installed in these wings. At some point, the roof on the rear of the Barn was raised. The cupola on top of the Barn was removed sometime after 1960. (See photos below)

DCR's Department of Cultural Resources has adopted a Cultural Resources Policy for its stewardship of the property and buildings under its management. That portion of the policy dealing with standards for historical rehabilitation adopted the US Secretary of Interior's Standards for the Treatment of Historic Properties and therefore must guide the rehabilitation of the Barn.

The standards are codified in 36 CFR 67 (see below). "Rehabilitation" is defined as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values." One of those standards would guide our decision making at this early stage and allow me to support our plans with various state and local agencies.

"Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved."

I would argue that the architectural features of the current Barn coupled with its current location in the triad of camp buildings established in the 1920's reflect the changes to the Barn by Camp Monomoy depicted in the photo from 1960 and that those changes have acquired historic significance in their own right.

And so, for purposes of discussion and resolution, here are the issues as I see it:

1. We need to make a decision that the Barn should be rehabilitated to the Camp Monomoy alterations that resulted in its current architectural character.
2. We need to make a decision whether to reconstruct the architectural features that are now missing on the exterior:
  - cupola on the roof
  - doors and windows missing
  - other architectural features such as the sliding wooden shutters on the windows
3. On the interior, an approach to the look and feel and preservation of the Barn
4. Siting: We need to make an argument about moving the structure to the east.
5. Basement and Foundation: We would like to consider lifting the building & moving it to the east a bit and setting it back down on a foundation with a basement.

Obviously, the treatment of the interior and the desire for the basement results from a statement of needs and uses which I have included here.

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Sarah Crosby in front of Barn, 1889



Crosby Barn shown just northwest of the Crosby Stable near Crosby Cape House and Rte. 6A, 1889



The Crosby Barn was moved to its current location and used by Camp Monomoy as a place to show movies, engage in arts and crafts projects and sell ice cream to campers. These three photos show its architectural evolution from 1920 to 1960.





## Secretary of the Interior Standards for Rehabilitation

[http://www.nps.gov/hps/tps/standguide/rehab/rehab\\_standards.htm](http://www.nps.gov/hps/tps/standguide/rehab/rehab_standards.htm)

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.



# The Crosby Barn

The Crosby Era



*c. 1889*

Camp Monomoy Era



*c. 1926*

Camp Monomoy Era



*Between 1926 and 1958*



*c. 1958*

Nickerson Era



*c. 1992 immediately before Cape Rep occupation*

Cape Rep Theatre Era



*c. 2015*



November 29, 2007

Elliott Carr, Chairman  
Brewster Community Preservation Act Committee  
Town of Brewster  
2198 Main Street  
Brewster, MA 02631

Re: Crosby Cape House, 3299 Rte. 6A, Brewster, MA

Dear Mr. Carr:

It has come to our attention that the Cape Cod Repertory Theatre Company (Cape Rep Theatre) has applied to the Brewster Community Preservation Act Committee (BCPAC) for funds to be used towards the rehabilitation of the historic Crosby Cape House. As you are aware, Cape Rep Theatre currently leases this building from the Department of Conservation and Recreation (DCR). I am writing to provide some clarification on the historical significance of the Crosby Cape House and the existing policies and restrictions that protect the house.

In 1994, the Commonwealth of Massachusetts granted Cape Rep Theatre a 25-year lease, renewable for an additional 30 years, on several structures and the surrounding seven-acre parcel in a part of Nickerson State Park formerly known as Camp Monomoy. Under the terms of the lease, Cape Rep Theatre is obligated to undertake repairs to and improvements of three structures within this parcel. Two of the three buildings—the camp chapel and the camp dining hall—have already been rehabilitated for theatre use. Cape Rep Theatre is now in the planning stages for a rehabilitation of the Crosby Cape House into residential housing and a multi-function meeting room. DCR is very pleased with Cape Rep Theatre's track record in maintaining the buildings on the property, and based on our initial discussions with the organization, we believe that the proposed re-use of and additions to the house will be compatible with its historic character and breathe new life into this long-neglected property.

The Crosby Cape House is architecturally significant as an excellent example of a mid- to late-18<sup>th</sup> century three-bay half-Cape dwelling featuring stylistic updates from different eras in the 19<sup>th</sup> century. The house has strong historical associations with the Crosby family, who owned extensive amounts of land in this area of East Brewster and were probably the original owners of the house. The original house consists of the half-Cape block at the southwest corner. In the 1800s, the half-Cape was enlarged through the addition of wings to the east and north that eventually connected it to the rear barn. As architectural tastes evolved, the house was updated to reflect those trends, including the Georgian/Federal style fanlight and sidelights at the front entrance (probably sometime 1800-1830) and the Italianate one-story bay window (mid- to late-19<sup>th</sup> century). The corner quoins on the half-Cape and east wing were likely added at the time of the front entrance or the bay window alterations.

The Crosby Cape House has multiple historical designations. It is recognized on a regional level by its inclusion within the Old King's Highway Regional Historic District. The house is included in the Massachusetts Historical Commission (MHC)'s *Inventory of Historical and Archeological Assets of the Commonwealth* and is listed in the State Register of Historic Places. MHC has also determined the house to be a contributing building in a historic district comprising the former Crosby Estate, which is eligible for listing in the National Register of Historic Places.

COMMONWEALTH OF MASSACHUSETTS · EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

Department of Conservation and Recreation  
251 Causeway Street, Suite 600  
Boston MA 02114-2119  
617-626-1250 617-626-1351 Fax  
www.mass.gov/dcr



Deval L. Patrick  
Governor

Timothy P. Murray  
Lt. Governor

Ian A. Bowles, Secretary, Executive  
Office of Energy & Environmental Affairs

Richard K. Sullivan, Jr., Commissioner  
Department of Conservation & Recreation

According to the National Park Service, a contributing building adds to the historic associations, historic architectural qualities, or archaeological values for which a historic district is significant. A contributing property must also retain its "integrity"--in other words, the property must retain enough of its historic physical features to convey its significance as part of the district.

We understand that the BCPAC has a policy of placing deed restrictions on those properties that receive historic preservation funding from the CPA program to ensure long-term protection of each site and to protect the public's financial investment in each project. We would like to point out that the property leased to Cape Rep Theatre, and owned by the Commonwealth, is land held by DCR under Article 97 of the Massachusetts Constitution. Such lands are held in public trust for conservation purposes and no interest in such lands can be released or transferred unless by a two-thirds vote of the General Court. A deed restriction placed on property constitutes an interest that DCR cannot grant without directing legislation.

The BCPAC should be aware that the historic character of the Crosby Cape House is already protected under a number of policies and regulations at the local and state level. These are enumerated below:

#### **DCR's Policy on Protection of Archaeological and Cultural Resources**

DCR currently operates under the terms of an agency-wide policy regarding the protection of archaeological and cultural resources. This policy was established by one of its predecessor agencies, the Department of Environmental Management. Excerpts from this policy that relate to DCR's management of the Crosby Cape House include:

*[DEM's] Office of Historic Resources, in its support to ensure the wise stewardship of cultural and archaeological resources, shall provide preservation planning and technical assistance to all Divisions within DEM. Divisions within DEM shall consult with the Office of Historic Resources on all projects that may affect known or potential cultural and archaeological resources. (Section II(B)(1)(a))*

*DEM should make every effort to protect cultural and archaeological resources on DEM land. For projects planned at any Department level, appropriate Department staff will consult with the Office of Historic Resources to consider the effect the project has on cultural and archaeological resources. (Section II(D)(2)(a))*

*Management of the Department's cultural resources must be carried out with site protection in mind. Adverse impacts to sites should be avoided and mitigated, where possible, with appropriate protection strategies. Cultural resource management decisions should be made with input from the Office of Historic Resources (Section II(D)(4))*

*DEM shall manage its real property so as to promote the preservation and continued use of its significant historic buildings and structures. (Section II(D)(6))*

#### **Terms of Cape Rep Theatre's Lease**

Cape Rep Theatre signed an agreement in October of 1994 to lease three parcels of land from the Commonwealth of Massachusetts (including the Crosby Cape House) for a period of 25 years to operate a regional theatre of the visual and performing arts and carry out related activities. Cape Rep Theatre has the option to extend the lease for an additional term of 30 years. The lease was structured to require certain improvements to the Crosby Cape House by the tenant and put in place a review and approval process for any alterations to the building to ensure preservation of its historic character. Among the terms of the lease are the following:

*In consideration of the terms and conditions of the Lease, the Tenant shall repair, restore and rehabilitate the structures on the Premises referred to in the Act as "The Cape House," "The Amphitheatre," and "The Meetinghouse," and shall make other improvements upon the Premises, all as more particularly described in Exhibit E attached hereto (said improvements are hereafter referred to collectively as "The Required Improvements"). (Article V, sec. 5.2)*

*Tenant shall not commence construction of any Required Improvement which alters the exterior appearance of any structure or for which a building permit is required until DEM [now DCR] has approved plans and specifications for the proposed work in accordance with the terms of this Section 6.2. (Article VI, sec. 6.2)*

*Except for routine repairs and decorations, Tenant shall not undertake construction of any Optional Improvement, including the demolition, erection, addition or material alteration of any building or structure....without obtaining the prior approval of [DCR].... (Article VII, sec. 7.1(a))*

Exhibit E of the lease outlines the required improvements at the Crosby Cape House. Work that has already been completed by Cape Rep Theater includes removal of brush and overgrown foundation plantings, exterior painting and window repairs, re-roofing, repair or replacement of gutters and trim, and removal of a rear ell. Required improvements that the tenant is still responsible for in the future includes installation of new septic system, provisions for handicap access, and a complete renovation of the interior spaces.

## State Register Review

In accordance with M.G.L. Ch. 9, Sec. 26-27C, DCR must notify MHC, through filing of a Project Notification Form (PNF) or Environmental Notification Form (BNF), of any projects undertaken, funded, permitted, or licensed in whole or in part by the agency in order that MHC can make a Determination of Effect of the project on historic and archaeological resources listed in the State Register. If MHC determines a proposed project will have an adverse effect on historic properties, DCR must consult with MHC and any interested parties to explore feasible and prudent alternatives that would eliminate, minimize, or mitigate the adverse effects and, following consultation, adopt such alternatives.

### Disposition of State Property

In the unlikely event that DCR should ever seek to sell or transfer ownership of the Crosby Cape House property, the following requirements would make it very difficult to do so without ensuring the permanent protection of its historic character:

### Article 97

Disposition of state property acquired for their historic qualities is limited by the 97<sup>th</sup> Amendment to the State Constitution (often referred to as Article 97). The language of this amendment states:

*The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources is hereby declared to be a public purpose.*

*The general court shall have the power to enact legislation necessary or expedient to protect such rights.*

*In the furtherance of the foregoing powers, the general court shall have the power to provide for the taking, upon payment of just compensation therefor, or for the acquisition by purchase or otherwise, of lands and easements or such other interests therein as may be deemed necessary to accomplish these purposes.*

*Lands and easements taken or acquired for such purposes shall not be used for other purposes or otherwise disposed of except by laws enacted by a two thirds vote, taken by yeas and nays, of each branch of the general court.*

### State Register Review

Pursuant to M.G.L. Ch. 9, Sec. 26-27C, regulations outlined in 950 CMR 71 include language that provides protection to properties included in the State Register of Historic Places that are to be disposed by state agencies. Under 950 CMR 71.05(e), one criterion for a determination of "adverse effect" by MHC is

*the transfer or sale of a State Register property without adequate conditions or restrictions regarding preservation, maintenance, or use.*



**Old King's Highway Regional Historic District**

The Crosby Cape House is located within the Old King's Highway Regional Historic District. As a result, exterior alterations to the building require review and approval from the Brewster Historic District Committee.

According to Section 6 of the Old King's Highway Regional Historic District Act (as established by Chapter 470 of Acts of 1973 and amended by Chapters 298 and 845 of the Acts of 1975; Chapter 273 of Acts of 1976; Chapters 38 and 503 of Acts of 1977; Chapter 436 of Acts of 1978; Chapter 631 of the Acts of 1979; Chapter 338 of Acts of 1982; and Chapter 90 of the Acts of 1994);

*No building, structure or part thereof within the District, except as hereinafter provided, shall be demolished or removed unless and until an application for a permit to demolish or remove the same shall have filed with the [Brewster Historic District Committee] and a certificate for demolition has been filed with the town.*

According to Section 8 of the Act:

*Excepting cases excluded by Section Seven, any person, including the member town, state, county and federal governmental bodies, who desires to erect, move or demolish or remove or change the exterior architectural features of any building or structure within the District, or to erect or display within the District any sign or billboard for which a certificate of appropriateness is required under Section Six, shall file with the Committee an application for a certificate of appropriateness or certificate for demolition, as the case may be, together with such plans, elevations, specification, material and other information as shall be deemed necessary by the Committee to enable it to make a determination on the Application.*

We are pleased that the BCPAC is interested in supporting Cape Rep Theatre's rehabilitation of the Crosby Cape House. This is a highly visible historic property along Route 6A and an important piece of Brewster's architectural heritage, quite worthy of preservation. We hope you will take into account the various restrictions and review-and-approval procedures that are already in place to protect the historic integrity of the site, and will consider them to be commensurate with the protections provided by a preservation deed restriction.

Please do not hesitate to contact me with any questions at 617-626-4936.

Sincerely,



Jeffrey Harris  
Preservation Planner

Cc: Tom LaRosa, DCR General Counsel  
Patrice Kish, Director, DCR Office of Cultural Resources  
Todd LaFleur, DCR Program Manager  
Janine Perry, Cape Rep Theatre  
Brewster Historical Commission



November 20, 2014

Jay Paget, Cultural Facilities Fund Program Director  
Massachusetts Cultural Council  
10 St. James Ave. 3rd Floor  
Boston, MA 02116-3803

**Re: Cape Cod Repertory Theatre Company MCFF Application for Crosby Barn**

Dear Mr. Paget:

It has come to our attention that the Cape Cod Repertory Theatre Company (Cape Rep Theatre) is applying to the Massachusetts Cultural Facilities Fund (MCFF) for a grant to be used towards the rehabilitation of the historic Crosby Barn. Cape Rep Theatre currently leases this building from the Department of Conservation and Recreation (DCR).

The Crosby Barn, though moved in the 1920s from its original site on Route 6A to its current location and subsequently altered, is a significant contributor to the site's historic character and a reminder of the property's early use as a "gentleman's farm." The Massachusetts Historical Commission has determined the barn to be a contributing building in a historic district comprising the former Crosby Estate, which is eligible for listing in the National Register of Historic Places.

In 1994, the Commonwealth of Massachusetts granted Cape Rep Theatre a 25-year lease, renewable for an additional 30 years, on several structures and the surrounding seven-acre parcel in a part of Nickerson State Park formerly known as Camp Monomoy. Under the terms of the lease, Cape Rep Theatre is obligated to undertake repairs to and improvements of the structures within this parcel. Three of the four buildings—the camp chapel, the camp dining hall, and the Crosby Cape House—have already been rehabilitated for theatre use. DCR is very pleased with Cape Rep Theatre's track record in maintaining the buildings on the property, particularly the careful rehabilitation of the historic Crosby Cape House into residential housing and a multi-function meeting room in 2010.

In accordance with the terms of the lease, Cape Rep Theatre has been consulting with DCR on their plans to rehabilitate the barn to not only preserve its historical qualities, but also to enhance its role in meeting the functional needs of the organization. Cape Rep Theatre has also kept DCR apprised of the recent identification of the barn's structural deficiencies.

DCR supports Cape Rep Theatre's responsible efforts to undertake critical structural repairs to the barn, and to construct a new foundation that will expand the functional capacity of the structure while ultimately improving future public access to the historic barn's first floor. We strongly encourage the Massachusetts Cultural Council to support this grant application.

Please do not hesitate to contact me with any questions at 617-626-4936.

Sincerely,

Jeffrey Harris  
Preservation Planner

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Deval L. Patrick  
Governor

Maeve Vallely Bartlett, Secretary  
Executive Office of Energy & Environmental Affairs

John P. Murray, Commissioner  
Department of Conservation & Recreation





February 17, 2016

Paul Ruchinskas, Chairman  
Brewster Community Preservation Act Committee  
Town of Brewster  
2198 Main Street  
Brewster, MA 02631

**Re: Crosby Barn, 3381 Main Street, Brewster, MA**

Dear Mr. Ruchinskas:

It has come to our attention that the Cape Cod Repertory Theatre Company (Cape Rep Theatre) has applied to the Brewster Community Preservation Act Committee (BCPAC) for funds to be used towards the structural reinforcement of the historic Crosby Barn. As you are aware, Cape Rep Theatre currently leases this building from the Department of Conservation and Recreation (DCR). I am writing to provide some clarification on the historical significance of the Crosby Barn and the existing policies and restrictions that protect the structure.

In 1994, the Commonwealth of Massachusetts granted Cape Rep Theatre a 25-year lease, renewable for an additional 30 years, on several structures and the surrounding seven-acre parcel in a part of Nickerson State Park formerly known as Camp Monomoy. Under the terms of the lease, Cape Rep Theatre is obligated to undertake repairs to and improvements of three structures within this parcel. The camp chapel, the camp dining hall, and, more recently, the historic Crosby Cape House, have already been rehabilitated for the theatre company's use. DCR is very pleased with Cape Rep Theatre's track record in maintaining the buildings on the property.

The Crosby Barn, though moved from its original location and having undergone several alterations to its exterior and interior over the years, still maintains historic integrity and is an important reminder of the Crosby family's legacy and the former agricultural use of the property. The barn's current location and appearance is reflective of its former use as an assembly hall for Camp Monomoy, a more recent but significant era in the history of the property. The Crosby Barn is included within the Old King's Highway Regional Historic District, and thus is listed in the State Register of Historic Places. The Massachusetts Historical Commission has also determined the barn to be a contributing building in a historic district comprising the former Crosby Estate, which is eligible for listing in the National Register of Historic Places. According to the National Park Service, a contributing building adds to the historic associations, historic architectural qualities, or archaeological values for which a historic district is significant. A contributing property must also retain its "integrity"--in other words, the property must retain enough of its historic physical features to convey its significance as part of the district.

We understand that the BCPAC typically seeks placing deed restrictions on those properties that receive historic preservation funding from the CPA program to ensure long-term protection of each site and to protect the public's financial investment in each project. We would like to point out that the property leased to Cape Rep Theatre, and owned by the Commonwealth, is land held by DCR and protected under Article 97 of the Massachusetts Constitution. No interest in such protected lands can be released or transferred unless by a two-thirds vote of the General Court. A deed restriction placed on property constitutes an interest that DCR cannot grant without authorizing special legislation.

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Charles D. Baker  
Governor

Karyn E. Polito  
Lt. Governor

Matthew A. Beaton, Secretary, Executive  
Office of Energy & Environmental Affairs

Leo Roy, Commissioner  
Department of Conservation & Recreation



The BCPAC should be aware that the historic character of the Crosby Barn is already protected under a number of policies and regulations at the local and state level. These are enumerated below:

#### **DCR's Policy on Protection of Archaeological and Cultural Resources**

DCR currently operates under the terms of an agency-wide policy regarding the protection of archaeological and cultural resources. This policy was established by one of its predecessor agencies, the Department of Environmental Management (DEM). Excerpts from this policy that relate to DCR's management of the Crosby Barn include:

*[DEM's] Office of Historic Resources, in its support to ensure the wise stewardship of cultural and archaeological resources, shall provide preservation planning and technical assistance to all Divisions within DEM. Divisions within DEM shall consult with the Office of Historic Resources on all projects that may affect known or potential cultural and archaeological resources. (Section II(B)(1)(a))*

*DEM should make every effort to protect cultural and archaeological resources on DEM land. For projects planned at any Department level, appropriate Department staff will consult with the Office of Historic Resources to consider the effect the project has on cultural and archaeological resources. (Section II(D)(2)(a))*

*Management of the Department's cultural resources must be carried out with site protection in mind. Adverse impacts to sites should be avoided and mitigated, where possible, with appropriate protection strategies. Cultural resource management decisions should be made with input from the Office of Historic Resources. (Section II(D)(4))*

*DEM shall manage its real property so as to promote the preservation and continued use of its significant historic buildings and structures. (Section II(D)(6))*

#### **Terms of Cape Rep Theatre's Lease**

Cape Rep Theatre signed an agreement in October of 1994 to lease three parcels of land from the Commonwealth of Massachusetts (including the Crosby Barn) for a period of 25 years to operate a regional theatre of the visual and performing arts and carry out related activities. Cape Rep Theatre has the option to extend the lease for an additional term of 30 years. Among the terms of the lease is the following:

*In consideration of the terms and conditions of the Lease, the Tenant shall repair, restore and rehabilitate the structures on the Premises referred to in the Act as "The Cape House," "The Amphitheatre," and "The Meetinghouse [Crosby Barn]," and shall make other improvements upon the Premises, all as more particularly described in Exhibit E attached hereto (said improvements are hereafter referred to collectively as "The Required Improvements"). (Article V, sec. 5.2)*

*Tenant shall obtain the prior written approval of the Massachusetts Historical Commission and the local Historic District Committees for the design of all Required Improvements, to the extent such approval is required by applicable laws. (Article VI, sec. 6.1)*

*Tenant shall not commence construction of any Required Improvement which alters the exterior appearance of any structure or for which a building permit is required until DEM [now DCR] has approved plans and specifications for the proposed work in accordance with the terms of this Section 6.2. (Article VI, sec. 6.2)*

*Except for routine repairs and decorations, Tenant shall not undertake construction of any Optional Improvement, including the demolition, erection, addition or material alteration of any building or structure....without obtaining the prior approval of [DCR].... (Article VII, sec. 7.1(a))*

#### **State Register Review**

In accordance with M.G.L. Ch. 9, Sec. 26-27C, DCR must notify MHC, through filing of a Project Notification Form (PNF) or Environmental Notification Form (ENF), of any projects undertaken, funded, permitted, or licensed in whole or in part by the agency in order that MHC can make a Determination of Effect of the project on historic and archaeological resources listed in the State Register. If MHC determines a proposed project will have an adverse effect on historic properties, DCR must consult with MHC and any interested parties to explore feasible and prudent



alternatives that would eliminate, minimize, or mitigate the adverse effects and, following consultation, adopt such alternatives.

#### **Disposition of State Property**

In the unlikely event that DCR should ever seek to sell or transfer ownership of the Crosby Barn property, the following requirements would make it very difficult to do so without ensuring the permanent protection of its historic character:

#### Article 97

Disposition of state property acquired for their historic qualities is limited by the 97<sup>th</sup> Amendment to the State Constitution (often referred to as Article 97). The language of this amendment states:

*The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources is hereby declared to be a public purpose.*

*The general court shall have the power to enact legislation necessary or expedient to protect such rights.*

*In the furtherance of the foregoing powers, the general court shall have the power to provide for the taking, upon payment of just compensation therefor, or for the acquisition by purchase or otherwise, of lands and easements or such other interests therein as may be deemed necessary to accomplish these purposes.*

*Lands and easements taken or acquired for such purposes shall not be used for other purposes or otherwise disposed of except by laws enacted by a two thirds vote, taken by yeas and nays, of each branch of the general court.*

#### State Register Review

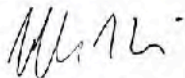
Pursuant to M.G.L. Ch. 9, Sec. 26-27C, regulations outlined in 950 CMR 71 include language that provides protection to properties included in the State Register of Historic Places that are to be disposed by state agencies. Under 950 CMR 71.05(e), one criterion for a determination of "adverse effect" by MHC is

*the transfer or sale of a State Register property without adequate conditions or restrictions regarding preservation, maintenance, or use.*

We are pleased that the BCPAC is interested in supporting Cape Rep Theatre's structural reinforcement of the Crosby Barn. This is an important piece of Brewster's architectural heritage, quite worthy of preservation. We hope you will take into account the various restrictions and review-and-approval procedures that are already in place to protect the historic integrity of the site, and will consider them to be commensurate with the protections provided by a preservation deed restriction.

Please do not hesitate to contact me with any questions at 617-626-4936.

Sincerely,



Jeffrey Harris  
Preservation Planner

Cc: Tom LaRosa, DCR Deputy General Counsel  
Patrice Kish, Acting Chief, Bureau of Planning, Design and Resource Protection  
Janine Perry, Cape Rep Theatre  
Brewster Historical Commission

7  
June 30, 1992

Patrice Kish  
Office of Historic Resources  
Department of Environmental  
Management  
100 Cambridge Street  
Boston, MA 02202

RE: Center for the Performing Arts, Nickerson State Park, Brewster, MA;  
EOEA No. 8997

Dear Ms. Kish:

Staff of the Massachusetts Historical Commission have reviewed the additional information you submitted, received June 29, 1992, regarding the proposed project to be undertaken by the Cape Cod Repertory Theater Company. The proposed project site is located in the Old King's Highway Regional Historic District which is listed in the State Register of Historic Places. In addition, the former Crosby Estate is eligible for listing in the National Register of Historic Places. MHC staff understand that the proposed project includes the following components.

The proposed rehabilitation of the Crosby Gpae House for use as a caretaker's residence and office space involves reroofing with wood shingles, installation of crown molding trim on rake boards, demolition of a deteriorated rear porch and two cinderblock chimneys, and scraping and repainting. MHC staff understand that additional information on subsequent phases of the rehabilitation project will be submitted as it is available.

Proposed repairs to the Robert J. Delahanty Outdoor Theater and Backworks Hall, both constructed in 1959, are intended to allow for the use of these structures for the 1992 performance season. Both buildings are considered non-contributing to the historic district.

Immediate plans for the Crosby Barn include securing the c.1889 building against vandalism and weather damage for use as storage. Future plans may include relocating the building adjacent to the Crosby Livery Stable. MHC staff understand that more specific information on the proposed relocation will be submitted to this office as it is available.

Finally, MHC staff understand that plans for the proposed reconstruction of the Crosby Livery Stable, which was destroyed by fire in September 1991, are currently being prepared and will be submitted to the MHC for review as they are available.

Massachusetts Historical Commission, Judith B. McDonough, Executive Director, State Historic Preservation Officer  
80 Boylston Street, Boston, Massachusetts 02116 (617) 727-8470  
Office of the Secretary of State, Michael J. Connolly, Secretary



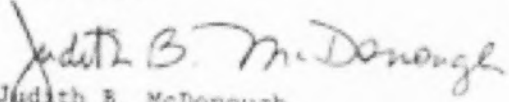
James  
FYE - here  
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received info  
7/7

After review of the materials submitted, I concur to a finding of no adverse effect for this action (950 CMR 71.07 (2)(b)(2)) provided the following conditions are met: additional information on any subsequent work on the Cape House, the Crosby Barn, and the Crosby Livery Stable is submitted to MHC staff for review and comment as it is available.

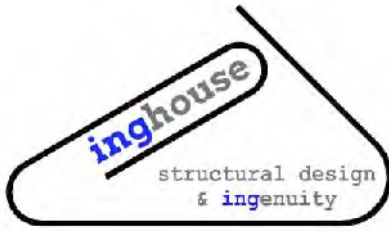
These comments are provided to assist in compliance with Massachusetts General Laws, Chapter 9, Sec. 26-27c, as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00) and MEPA.

If you have additional questions, please contact Allen Johnson of this office.

Sincerely,

  
Judith B. McDonough  
Executive Director  
State Historic Preservation Officer  
Massachusetts Historical Commission

cc: MEPA Unit, EOCD  
Todd Lafleur, DEM, Division of Forests & Parks  
Chris Greene, DEM  
DCPO  
Brewster Historical Commission  
Cape Cod Commission



inghouse, PC  
P.O. Box 102  
Marstons Mills, MA 02648

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Phone: 508-221-2980  
Email: jensen@inghouse.net  
Web: www.inghouse.net

November 11<sup>th</sup>, 2014

INGHOUSE project ID: ING14022

Cape Cod Repertory Theatre Company, inc.  
d/b/a Cape Rep Theatre  
Attn: Janine M. Perry  
P.O. Box 105  
Brewster, MA 02631

**Structural Engineering Evaluation Report for the historic “Crosby Barn”**  
132 Linnel Landing Road, Brewster, Massachusetts

Dear Mrs. Perry:

INGHOUSE has visited the existing building, indicated above, on multiple occasions in the recent weeks for a structural review of the existing building’s framing and overall conditions. The purpose of this structural investigation is to provide you with an overall assessment, and the buildings current capability to support future, proposed occupancy, and required lateral wind loading conditions. This review enabled the assessment and development of a structural strengthening concept for the building, including a new foundation system, allowing lifting of the existing building onto such support.

The following intentions have been communicated to INGHOUSE:

1. Historic preservation of the barn structure with an unchanged exterior building envelope.
2. Structural strengthening for future use and current Building Code compliance.
3. Construction of a new foundation system & potential relocation of the building.

**General Observations & Discussion:**

The barn is currently unconditioned and used as storage space for stage equipment of the theater. The building consists of a single story, wood framed construction and is temporarily supported on dry stacked CMU blocks.

It is obvious, that a multitude of construction changes have been made over time to the barn structure, e.g. removal and relocation of interior and exterior walls, removal/changes of some main interior post supports, changes to roof framing members, attempts to stabilize the structure by addition of tie rods and tie beams at the existing girder beam level. A clay brick chimney with interior fireplace is present on one gable end of the barn. The chimney is not in operational condition.

## 1. Lateral Load Resisting System of the Existing Barn Structure

The built-up timber beam girders, which support the main barn's roof structure have shifted (racking translation) by approximately 1.5ft (at max location) perpendicular to its long axis. The barn is about 72 ft long and 36ft wide, and has no designated lateral load resisting elements, capable of providing adequate load resistance in the short axis direction, other than the gable end framed walls. The existing roof diaphragm consists of  $\frac{3}{4}$ " thick board sheathing atop roof rafters with 24 inch on center spacing. This existing roof diaphragm does not provide sufficient stiffness or strength to transfer the lateral wind forces to the existing gable end walls at each end. A visible result of the lacking stiffness is the observed racking of the structure.

*It is estimated that a significant load event with a combination of relatively high roof snow loading and lateral wind forces, e.g. a Northeaster storm system, typical for Cape Cod, could cause a complete failure of the barn structure.*

## 2. Gravity Load Resisting System of the Existing Barn Structure and Foundations

The existing wood framing materials of the barn are generally in adequate condition with only few areas showing rot or damage (please refer to samples in the provided photo documentation of such areas). *The main deficiency of the existing structure is found in the insufficient member sizes and layout/spacing of the framing to resist current code loading conditions (which would need to be met for a safe future use of the building, if a full renovation and support on new foundations is desired). All parts of the gravity load resisting structure, e.g. roof rafters, tie rafter connections, girder beams, girder beam supporting, built-up wood posts, wall studs, shear wall board sheathing and nailing, and temporary foundation supports are failing under current building code required, structural design loads.* The existing red clay brick chimney shows significant structural damage (freeze-thaw damage) of individual bricks and failure of mortar joints, the chimney has separated from the wood framed building structure. Use without complete restoration of the chimney is not recommended. If the building is moved, the chimney structure would require complete re-construction and a new footing system.

The current CMU block supports are not an adequate, long term foundation system for the structure. The building is not mechanically connected to a foundation system, which would resist shear and uplift forces, and it has no properly sized footings to prevent significant overall and differential settling.

## 3. General Existing Building Assessment

The building is volatile to high gravity and lateral load events, and would not be allowed for use in any other function than: Occupancy Category I: "Minor storage facility" per ASCE 7-05, table 1-1, without significant upgrades to the structure.

*The building has passed inspection as "existing, none conforming" in the past, however, it is our opinion, that the structure, in its current state, has exceeded its "safe-use" life span. It is recommended to provide structural temporary shoring measures to prevent a sudden failure as soon as possible before the next winter season.*

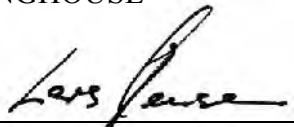


## Conclusion

INGHOUSE has provided a structural strengthening approach for the Crosby Barn, which includes the introduction of a structural “steel skeleton”, added to the existing wood framing members of the building. The concept allows keeping all undamaged, existing framing and the exterior shell in place and unchanged, while providing the required gravity and lateral load resisting strength per current building code for the proposed future use of the barn. Additional strengthening measures by adding new wood framing (typically by sistering onto existing framing members) will also be required in some areas. The proposed new foundation system and 1<sup>st</sup> floor framed deck supporting steel girder beams will provide the desired usage space and load capacity for a permanent barn support.

Please, do not hesitate to contact us with any questions.

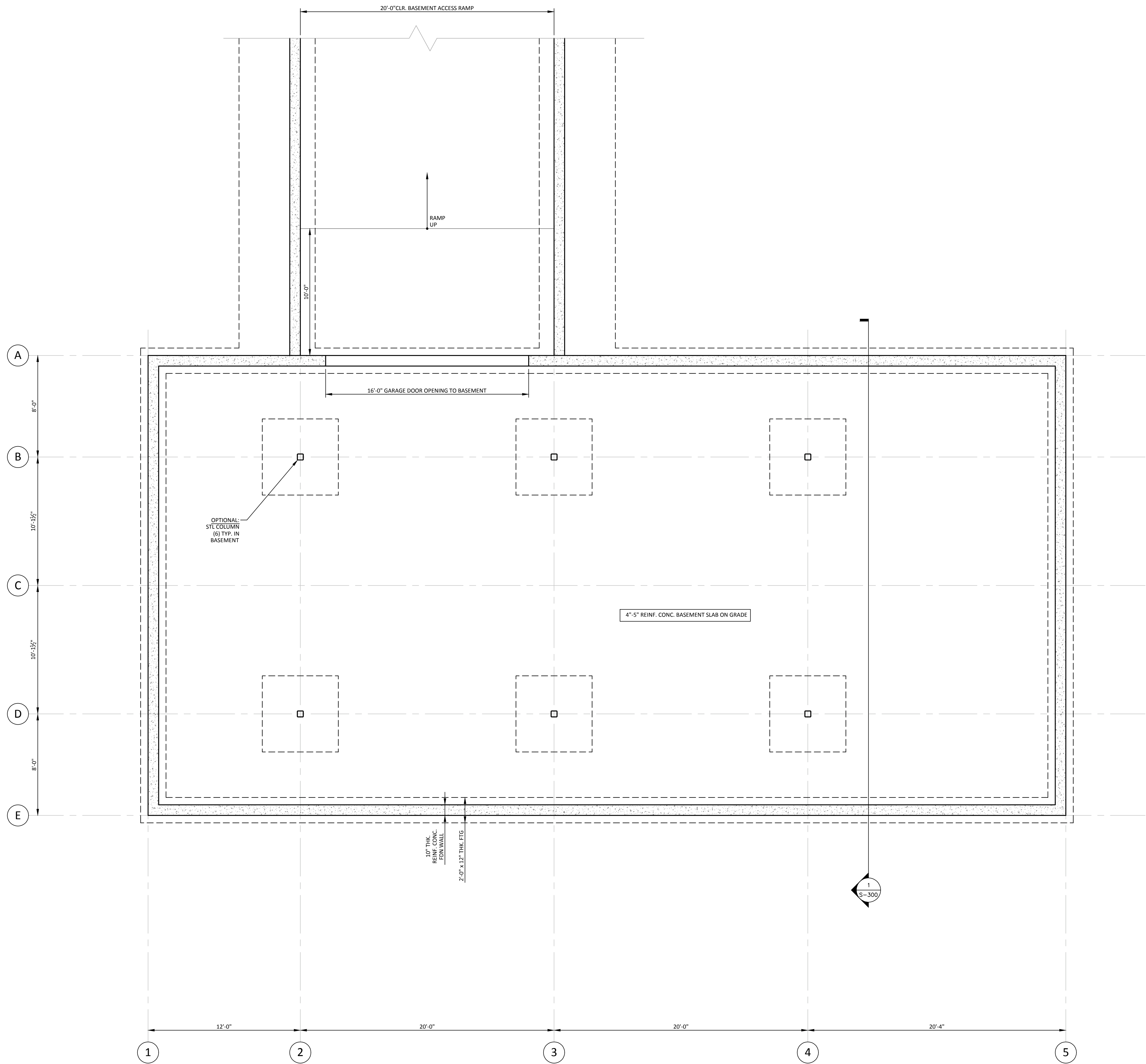
Sincerely,  
INGHOUSE

  
Lars Jensen, P.E., S.E.

References:

1. Photo Documentation, October 2014 by INGHOUSE
2. Structural Pricing Drawings for “Historic Crosby Barn Renovation”, dated Nov. 7th, 2014 by INGHOUSE.





PROPOSED NEW FOUNDATION PLAN  
SCALE: 1/16"=1'-0"

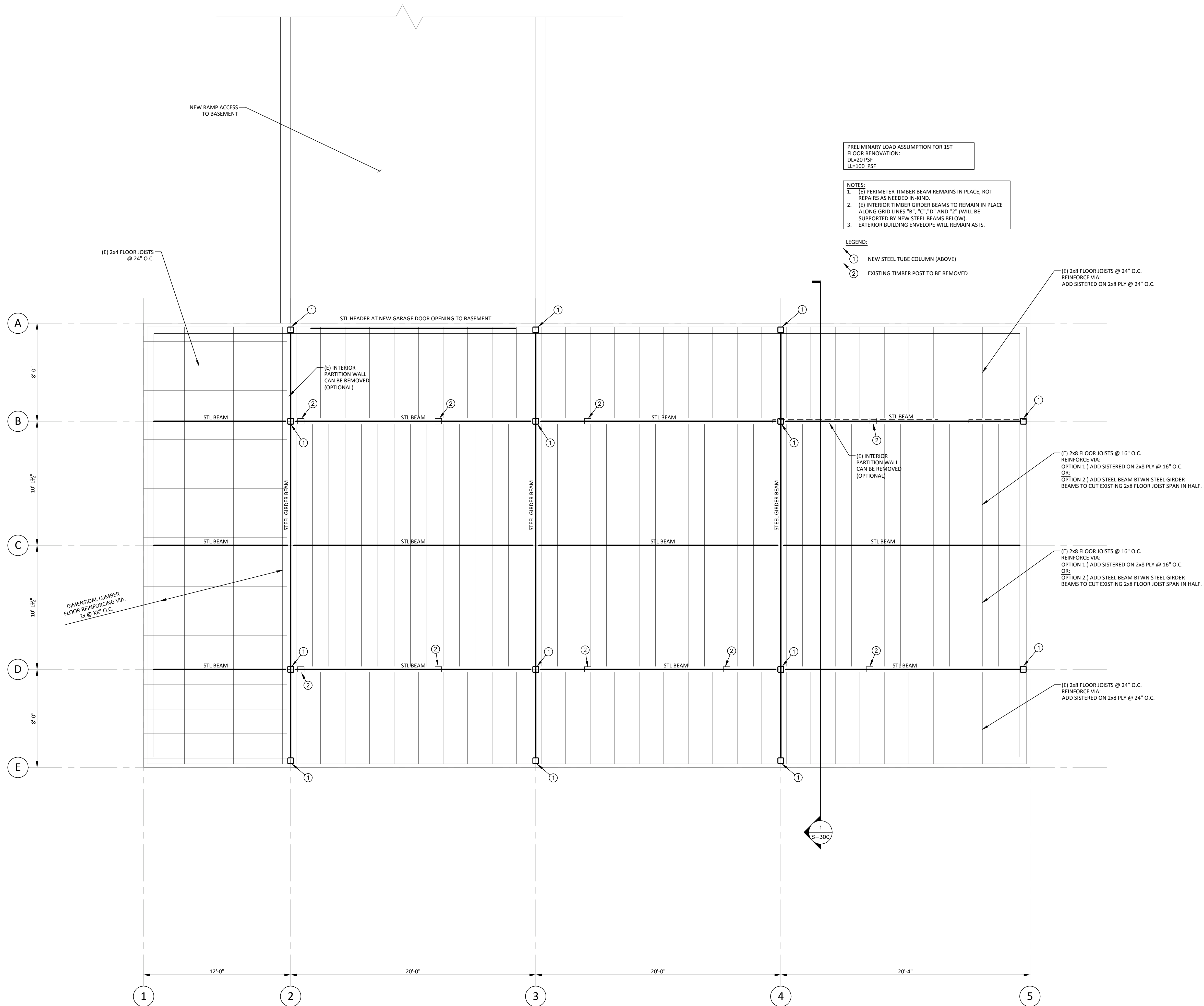
CONCEPTUAL DESIGN -FOR REVIEW  
-NOT FOR CONSTRUCTION-

SEAL:

REVISION	DATE	NUMBER

HISTORIC "CROSBY BARN" RENOVATION FOR CAPE REPERTORY THEATRE CO.	PROPOSED NEW FOUNDATION PLAN
PROJECT TITLE:	132 LINNEL LANDING ROAD, BREWSTER, MA
PROJECT #:	ING14022

SCALE:	AS NOTED
DATE:	11/03/2014
DESIGNED BY:	LJ
DRAWN BY:	LJ



IST FLOOR FRAMING PLAN  
SCALE: 1/4"=1'-0"

PRELIMINARY LOAD ASSUMPTION FOR 1ST FLOOR RENOVATION:  
DL=20 PSF  
LL=100 PSF

- NOTES:
- (E) PERIMETER TIMBER BEAM REMAINS IN PLACE, ROT REPAIRS AS NEEDED IN-KIND.
  - (E) INTERIOR TIMBER GIRDER BEAMS TO REMAIN IN PLACE ALONG GRID LINES "B", "C", "D" AND "2" (WILL BE SUPPORTED BY NEW STEEL BEAMS BELOW).
  - EXTERIOR BUILDING ENVELOPE WILL REMAIN AS IS.

- LEGEND:
- 1 NEW STEEL TUBE COLUMN (ABOVE)
  - 2 EXISTING TIMBER POST TO BE REMOVED

(E) 2x8 FLOOR JOISTS @ 24" O.C.  
REINFORCE VIA:  
ADD SISTERED ON 2x8 PLY @ 24" O.C.

(E) 2x8 FLOOR JOISTS @ 16" O.C.  
REINFORCE VIA:  
OPTION 1.) ADD SISTERED ON 2x8 PLY @ 16" O.C.  
OR:  
OPTION 2.) ADD STEEL BEAM BTWN STEEL GIRDER BEAMS TO CUT EXISTING 2x8 FLOOR JOIST SPAN IN HALF.

(E) 2x8 FLOOR JOISTS @ 16" O.C.  
REINFORCE VIA:  
OPTION 1.) ADD SISTERED ON 2x8 PLY @ 16" O.C.  
OR:  
OPTION 2.) ADD STEEL BEAM BTWN STEEL GIRDER BEAMS TO CUT EXISTING 2x8 FLOOR JOIST SPAN IN HALF.

(E) 2x8 FLOOR JOISTS @ 24" O.C.  
REINFORCE VIA:  
ADD SISTERED ON 2x8 PLY @ 24" O.C.

DIMENSIONAL LUMBER FLOOR REINFORCING VIA 2x @ XX" O.C.

NEW RAMP ACCESS TO BASEMENT

STL HEADER AT NEW GARAGE DOOR OPENING TO BASEMENT

(E) INTERIOR PARTITION WALL CAN BE REMOVED (OPTIONAL)

(E) INTERIOR PARTITION WALL CAN BE REMOVED (OPTIONAL)

CONCEPTUAL DESIGN -FOR REVIEW  
-NOT FOR CONSTRUCTION-

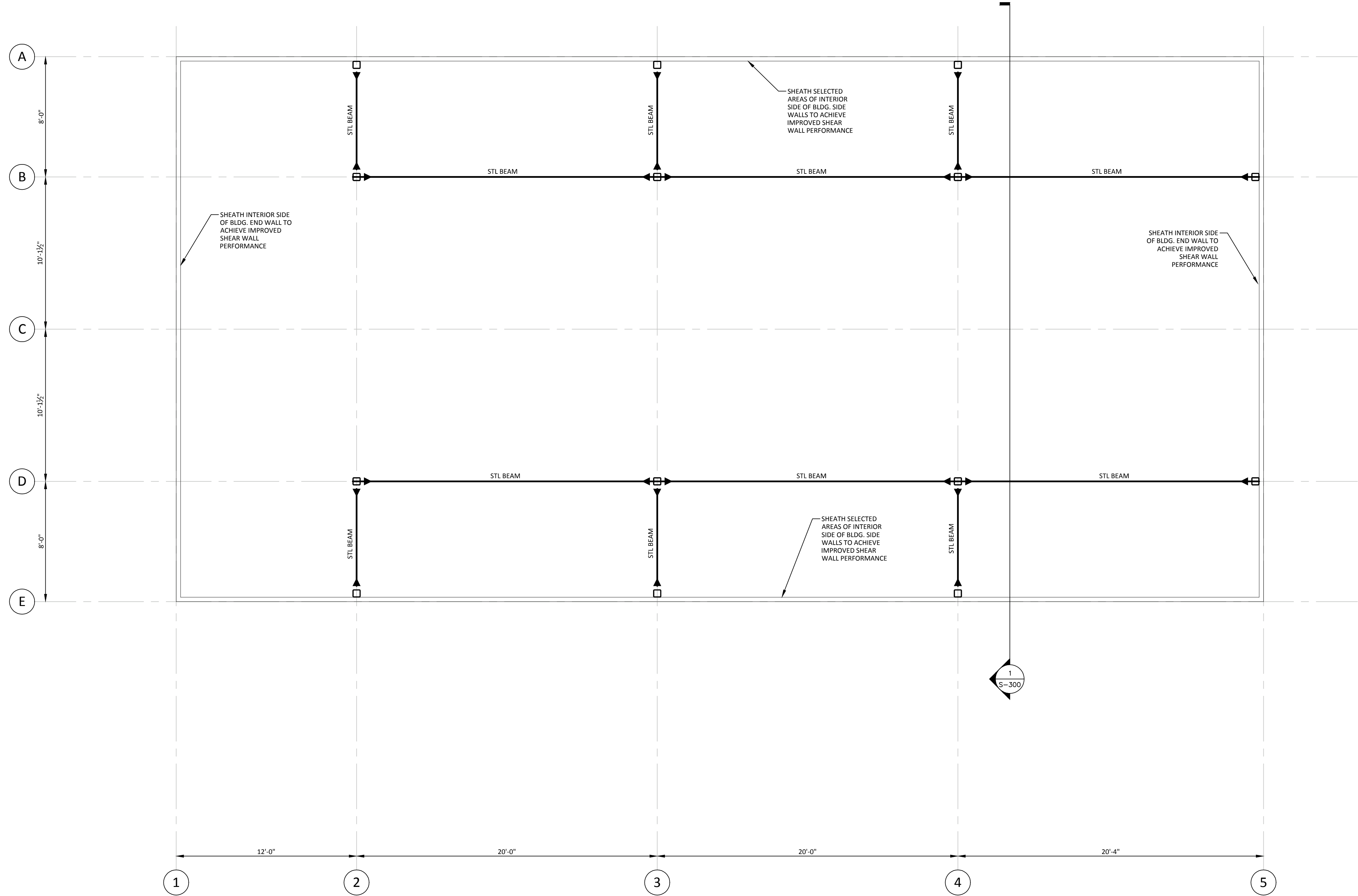
SEAL:

REVISION	DATE	NUMBER

PROJECT TITLE: HISTORIC "CROSBY BARN" RENOVATION  
FOR CAPE REPERTORY THEATRE CO.  
132 LINNELL LANDING ROAD, BREWSTER, MA  
SHEET TITLE: 1ST FLOOR FRAMING PLAN  
(REINFORCING/SUPPORT PLAN OF EXISTING REMAINING FRAMING)

SCALE:	AS NOTED
DATE:	11/03/2014
DESIGNED BY:	UJ
DRAWN BY:	UJ
PROJECT #:	ING14022

S-201



NOTES:  
1. (E) ROOF FRAMING TO REMAIN, REPAIRS AND STRENGTHENING WILL BE REQUIRED.

LEGEND:

STEEL MOMENT CONNECTIONS AT STL MOMENT FRAME

PROPOSED ATTIC LEVEL FRAMING PLAN

SCALE: 1/4"=1'-0"

CONCEPTUAL DESIGN -FOR REVIEW  
-NOT FOR CONSTRUCTION-

SEAL:

REVISION	DATE	NUMBER

HISTORIC "CROSBY BARN" RENOVATION FOR CAPE REPERTORY THEATRE CO.	ATTIC LEVEL FRAMING PLAN (STL BRACING PLAN)
PROJECT TITLE:	
132 LINNEL LANDING ROAD, BREWSTER, MA	
SHEET TITLE:	

SCALE:	AS NOTED
DATE:	11/03/2014
DESIGNED BY:	LJ
DRAWN BY:	LJ
PROJECT #:	ING14022

S-202

SEAL:

REVISION

DATE

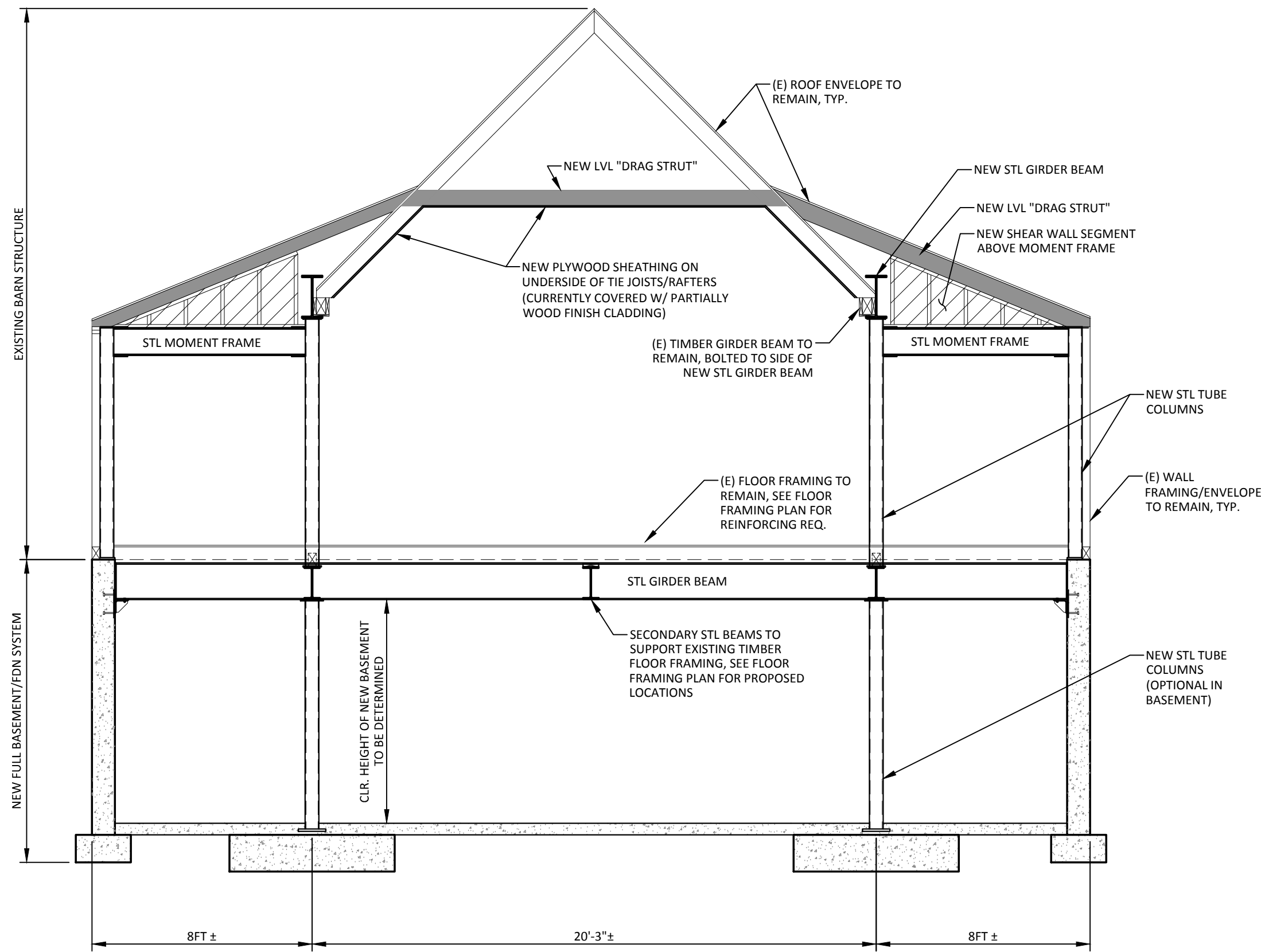
NUMBER

PROJECT TITLE:  
HISTORIC "CROSBY BARN" RENOVATION  
FOR  
CAPE REPERTORY THEATRE CO.  
132 LINNEL LANDING ROAD, BREWSTER, MA  
SHEET TITLE:  
SECTIONS & DETAILS

SCALE:  
DATE:  
DESIGNED BY:  
DRAWN BY:  
PROJECT #:

AS NOTED  
11/03/2014  
UJ  
UJ  
ING14022

S-300



FULL BUILDING SECTION  
SCALE: 1/4" = 1'-0"

I

CONCEPTUAL DESIGN -FOR REVIEW  
-NOT FOR CONSTRUCTION-

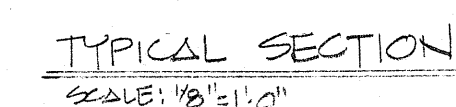


TEL: 945-4500

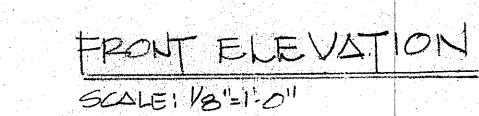
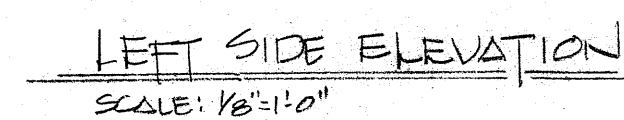
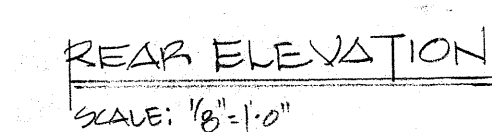
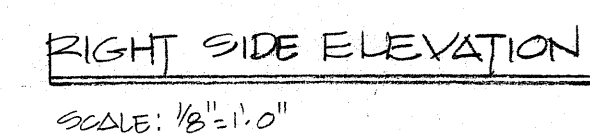
CAPE COD  
REPERTORY THEATRE  
ROUTE 6A  
BREWSTER, MA.

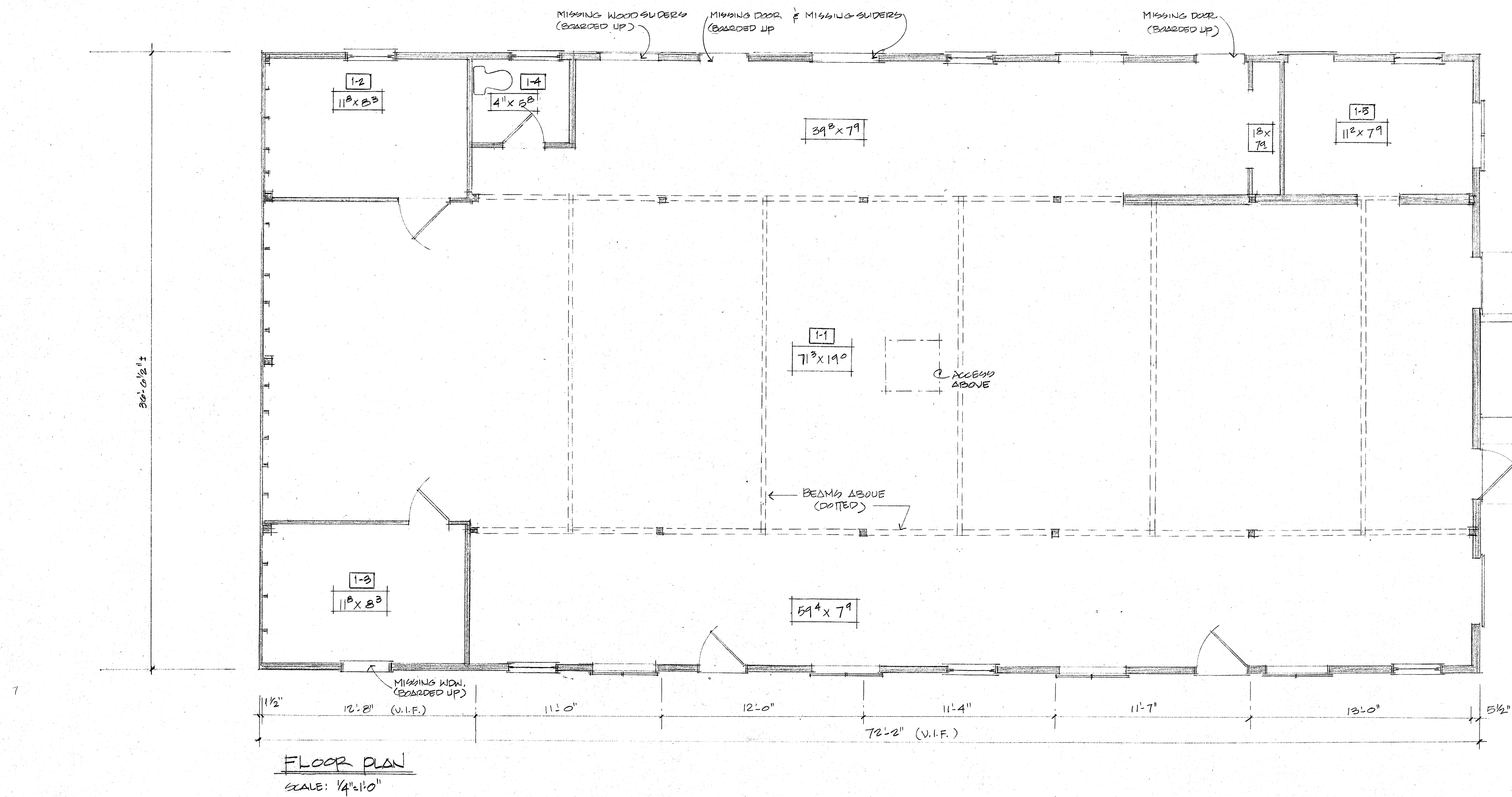
CROSBY BARN  
EXISTING CONDITIONS  
ELEVATIONS.

DATE: 7/27/06
SCALE: 1/8"=1'-0"
REVISIONS



NOTE: FOUNDATION FOOTINGS VARY:  
POSTS IN WOOD, CMU and SOLID CONCRETE.





CROSBY BARN  
FIRST FLOOR PLAN  
SCALE: 1/4"=1'-0"



GENERAL NOTES

1. ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL , MECHANICAL, ELECTRICAL, AND PLUMBING SPECIFICATIONS , INCLUDING THE FOLLOWING GOVERNING STANDARDS:
- A. THE MASSACHUSETTS STATE BUILDING CODE, 8TH EDITION (780 CMR) AND ALL OTHER AGENCIES HAVING JURISDICTION.
- B. AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
- C. ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE." (ACI 318-08)
- D. THE CODE FOR WELDING IN BUILDING CONSTRUCTION BY THE AMERICAN WELDING SOCIETY (AWS D1.1)
- E. THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS), LATEST EDITION.

2. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AND MAKE SAFE ALL FLOORS, ROOFS, WALLS AND ADJACENT PROPERTY AS PROJECT CONDITIONS REQUIRE.

3. ALL CONSTRUCTION IS TO CONFORM TO THE MASSACHUSETTS STATE BUILDING CODE AND ALL APPLICABLE PRODUCT AND DESIGN STANDARDS. ABSENCE OF SPECIFIC ITEMS FROM THESE DRAWINGS DOES NOT INFER THAT THE CONTRACTOR IS RELIEVED FROM THE STATUTORY CODE REQUIREMENTS.

4. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE APPROVED RULES AND STANDARDS FOR MATERIALS, TESTS, AND REQUIREMENTS OF ACCEPTED ENGINEERING PRACTICE AS LISTED THE MASSACHUSETTS BUILDING CODE.

5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO COMMENCING WORK. ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THE DRAWING AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED BACK TO THE ENGINEER IN WRITING BEFORE PROCEEDING WITH ANY WORK.

6. OPENINGS THROUGH THE FRAMING AND FOUNDATION MAY NOT ALL BE SHOWN ON THESE DRAWINGS. THE GENERAL CONTRACTOR SHALL DETERMINE REQUIRED OPENINGS FOR MECHANICAL OR OTHER PURPOSES AS HE SHALL PROVIDE ADDITIONAL FRAMING AND REINFORCING STEEL FOR ALL OPENINGS WHERE REQUIRED. THE GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS. ANY DEVIATION FROM THE OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S IMMEDIATE ATTENTION FOR REVIEW.

7. FOUNDATIONS, FIRST FLOOR AND ROOF FRAMING HAVE BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS:  
A. GRAVITY LOADS:

- GROUND SNOW: 25 PSF , DESIGN SNOW: 25 PSF (25 PSF UNBALANCED);
- DRIFT SNOW SURCHARGE AT LOW ROOF: 15 PSF
- 1ST FLOOR LIVE LOAD = 100 PSF

B. WIND LOAD [=CONTROLLING LATERAL FORCE] (PER MASS. BUILDING CODE AND ASCE7-05):  
- WIND SPEED = 115 MPH;  
- EXPOSURE "B"  
- BUILDING CATEGORY II => IMPORTANCE FACTOR = 1.0

8. NOTIFY THE ENGINEER OF ANY ARCHITECTURAL MODIFICATION OR DIMENSION CHANGES THAT MAY AFFECT THE STRUCTURAL DESIGN.

9. THE FOUNDATION HAS NOT BEEN DESIGNED FOR A FLOOD HAZARD ZONE OR HYDROSTATIC FORCES, E.G. CAUSED BY HIGH GROUND WATER LEVELS.

FOUNDATION NOTES

1. ALL FOOTINGS SHALL BEAR LEVEL ATOP UNDISTURBED OR PROOF-ROLLED, ACCEPTABLE SOIL OR COMPACTED STRUCTURAL FILL, HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 2,000 LB PER SQUARE FOOT. ACCEPTABLE MATERIALS ARE CONSIDERED TO BE PROOF ROLLED EXISTING GRANULAR FILL.

2. SUBSOIL BEARING STRATA SHALL BE FREE FROM ALL VEGETATION, LOAM, AND ORGANIC MATERIAL. ALL SILT, FILL, TOPSOIL, AND OTHER UNACCEPTABLE SOIL MATERIALS SHALL BE EXCAVATED AND REMOVED FROM THE SITE AT ALL FOUNDATION AND SLAB-ON-GRADE LOCATIONS. SPECIFIED STRUCTURAL, COMPACTED FILL SHALL BE SUBSTITUTED AT THESE LOCATIONS.

3. IF BEARING MATERIALS (OTHER THAN THOSE DESCRIBED ABOVE) WITH A LOWER ALLOWABLE BEARING CAPACITY THAN 2,000 LB PER SQUARE FOOT ARE ENCOUNTERED, THE UNSUITABLE MATERIALS SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL AS SPECIFIED AND APPROVED BY THE STRUCTURAL ENGINEER.

4. DO NOT BACKFILL PRIOR TO COMPLETE CONSTRUCTION OF THE 1ST FLOOR FRAMING & FLOOR SHEATHING. FDN WALLS DO NOT WITHSTAND EXISTING LATERAL SOIL PRESSURES UNTIL THE NEW FLOORS ARE IN PLACE AND COMPLETELY CONNECTED.

5. ALL FOOTINGS SHALL BE PLACED ATOP PROOFROLLED ACCEPTABLE SOILS OR COMPACTED STRUCTURAL FILL. COMPACTED TO 95% MODIFIED PROCTOR DENSITY, AFTER REMOVAL OF UNSUITABLE MATERIALS. BACKFILL UNDER ANY PORTION OF THE BUILDING FOUNDATIONS SHALL BE COMPACTED IN 6" TO 8" LIFTS OF 95% MODIFIED PROCTOR DENSITY.

6. THE STRUCTURAL ENGINEER ASSUMES NO RESPONSIBILITY FOR THE VALIDITY OF THE SUBSURFACE CONDITIONS. CONTACT THE E.O.R. PRIOR TO FOOTING CONSTRUCTION TO ALLOW REVIEW AND APPROVAL OF EXISTING SITE SOIL CONDITIONS, OR ENGAGE A LICENSED GEOTECHNICAL ENGINEER FOR VERIFICATION OF SUFFICIENT BEARING CONDITIONS. VERIFICATION OF MAXIMUM GROUND WATER LEVELS ARE BELOW BOTTOM OF PROPOSED FOOTINGS IS REQUIRED PRIOR TO CONSTRUCTION.

7. NO FOUNDATION OR SLAB SHALL BE PLACED IN WATER OR ON FROZEN GROUND. SUCH FOUNDATIONS OR SLABS PLACED IN SUCH CONDITIONS WILL BE IMMEDIATELY REJECTED AND REQUIRED TO BE FULLY REPLACED AT NO ADDITIONAL COST OR CONTRACT TIME EXTENSION.

8. ALTHOUGH GROUNDWATER ISSUES DURING CONSTRUCTION ARE NOT EXPECTED TO BE AN ISSUE, THE CONTRACTOR SHALL PROVIDE ALL SUFFICIENT MEANS OF SITE DEWATERING, AS NECESSARY, TO ENSURE FOUNDATIONS AND SLABS ARE PLACED AS SPECIFIED.

9. THE FOUNDATIONS HAVE NOT BEEN DESIGNED FOR BUOYANCY UPLIFT OR FLOOD LOADING CONDITIONS.

10. STRUCTURAL FILL: IMPORTED STRUCTURAL FILL MUST BE FREE OF ORGANIC, FROZEN, OR OTHER DELETERIOUS MATERIAL AND CONFORM TO THE GRADATION REQUIREMENTS OUTLINED BELOW. STRUCTURAL FILL SHOULD BE PLACED IN LOOSE LIFTS NOT EXCEEDING 12 INCHES THICK FOR SELF-PROPELLED VIBRATORY ROLLERS, AND 8 INCHES FOR VIBRATORY PLATE COMPACTORS. STRUCTURAL FILL SHALL BE PLACED WITHIN THE FOOTING-BEARING (1H:1V) ZONE AND BELOW ALL SLABS.

SIEVE SIZE	STRUCTURAL FILL* (PERCENT PASSING BY WEIGHT)
8"	100
3"	70-100
3/4"	45-95
NO. 4	30-90
NO. 10	25-80
NO. 40	10-50
NO. 200	0-12
*NOTES: THREE INCH MAXIMUM PARTICLE SIZE WITHIN 12 INCHES OF SLAB GRADE.	

CONCRETE NOTES

1. CONCRETE MIXTURE, FORM-WORK, DELIVERY AND PLACEMENT SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301 (LATEST EDITION), UNLESS OTHERWISE NOTED.

2. CONCRETE MATERIALS SHALL BE: TYPE 1 OR 2 PORTLAND CEMENT, SAND AND GRAVEL AGGREGATES. CONCRETE SHALL BE AIR-ENTRAINED PER ACI RECOMMENDATIONS. CONCRETE COMPRESSIVE STRENGTH, (F'C) IN 28 DAYS, WHEN TESTED IN ACCORDANCE WITH ACI 318-LATEST EDITION, SHALL BE AS FOLLOWS: ALL CONCRETE WORK - **3,500 PSI**.

3. THE MAXIMUM CONCRETE SLUMP FOR FOUNDATION WALLS, FOOTINGS, PIERS, ETC., SHALL BE 4". THE MAXIMUM CONCRETE SLUMP FOR SLABS SHALL BE 3". EXCEPT FOR NON-EXPOSED INTERIOR CONCRETE SLABS ON GRADE AND INTERIOR DECK SLABS. ALL CONCRETE SHALL BE AIR ENTRAINED TO 5% (+/- 1%).

4. ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE CURRENT AMERICAN CONCRETE INSTITUTE SPECIFICATIONS AND GUIDELINES.

5. NO SLAB-ON-GRADE INFILLS HAVE BEEN DESIGNED FOR BUOYANCY UPLIFT FORCES DUE TO GROUNDWATER OR FLOODING.

6. ALL GROUT SHALL BE NON-SHRINK AND NON-METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI. THE MAXIMUM APPLICATION THICKNESS OF GROUT UNDER COLUMN BASES SHALL BE 1½".

7. REINFORCING STEEL SHALL BE NEW DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60, EXCEPT WHERE NOTED. ALL REINFORCING BARS WELDED TO A STEEL SECTION SHOULD BE OF WELDING GRADE 40. RUSTED BARS WILL BE IMMEDIATELY REJECTED AND REQUIRED TO BE REPLACED AT NO ADDITIONAL COST.

8. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI PUBLICATION 315 AND CURRENT CRSI SPECIFICATIONS, LATEST EDITIONS.

9. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, REINFORCING STEEL SHALL BE PLACED TO PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER:  
BOTTOM OF FOOTINGS 3"  
FORMED SIDES OF FOOTINGS 2"  
FOUNDATION WALLS 1½"  
SLAB ON GRADE 2" BELOW TOP SURFACE

10. COLUMN ANCHOR BOLTS ARE TO BE FURNISHED AND INSTALLED ACCORDING TO DESIGN PLAN. ALL COLUMN ANCHOR BOLTS SHALL BE SET BY TEMPLATE.

11. ALL CONCRETE SHALL BE PROTECTED AGAINST FROST UNTIL PROJECT IS COMPLETED. PROVIDE PROPER CONCRETE PROTECTION OR HEAT IN COLD WEATHER AND MAINTAIN PROPER CURING PROCEDURES IN ACCORDANCE WITH ALL CURRENT ACI CODE OF STANDARD PRACTICE SPECIFICATIONS AND GUIDELINES.

12. ALL REINFORCING BARS SHALL BE COLD BENT IN ACCORDANCE TO THE PROPER RADII ESTABLISHED BY THE ACI. UNDER NO CIRCUMSTANCES SHALL HEAT BE APPLIED TO THE BARS TO OBTAIN BENDS.

13. ADDITION OF WATER TO CONCRETE MIXES AT THE SITE IS NOT ALLOWED EXCEPT FOR SUPRERPLASTICIZED MIXES, AND ONLY IN ACCORDANCE WITH THE MANUFACTURER'S MIX DESIGN SPECIFICATIONS.

14. ALL CONCRETE SHALL BE READI-MIXED AT PLANT COMPLYING WITH ASTM C94 AND ASTM C1116. SITE MIXING IS NOT ALLOWED.

15. CHAIR BARS FOR SECURE PLACEMENT AND POSITIONING OF REINFORCING STEEL IS TO BE PROVIDED. REINFORCING SUPPORTS SHALL BE OF PROPER HEIGHT, LENGTH, SPACING, SIZE AND MATERIAL TYPE; IN NO CASE SHALL BRICK, WOOD, OR OTHER NON-CONFORMING REINFORCING STEEL SUPPORTS BE USED.

STRUCTURAL STEEL NOTES

1. STRUCTURAL STEEL ROLLED SHAPES SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING ASTM DESIGNATIONS:

ASTM A36	ALL ANGLES, CHANNELS, PLATES AND MISC. FRAMING MEMBERS, UNLESS OTHERWISE NOTED, (MINIMUM YIELD STRENGTH FY=36,000 PSI).
ASTM A307 GR."A"	ALL ANCHOR BOLTS, LAG SCREWS UNLESS NOTED OTHERWISE.
ASTM A325	ALL BOLTS CONNECTING STRUCTURAL STEEL MEMBERS.
ASTM A500 GR."B"	ALL HSS TUBE STEEL COLUMNS (MINIMUM YIELD STRENGTH FY=46,000 PSI).
ASTM A572 OR A992	ALL W-SHAPE BEAMS (MINIMUM YIELD STRENGTH FY=50,000 PSI).

ALL ANCHOR BOLTS OR FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL.

2. GROUT USED UNDER COLUMN BASE PLATES SHALL BE NON-SHRINK AND NON-METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI IN 28 DAYS. UNLESS OTHER APPROVED BY THE ENGINEER MAXIMUM APPLICATION THICKNESS OF THE GROUT SHALL BE 1½ INCHES.

3. ALL STRUCTURAL STEEL DETAILS AND CONNECTIONS SHALL CONFORM TO THE STANDARDS OF THE CURRENT AISC SPECIFICATIONS FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.

4. ALL WELDING SHALL CONFORM TO THE CURRENT STANDARD OF THE AMERICAN WELDING SOCIETY (A.W.S.). ALL SHOP AND FIELD WELDS MUST BE MADE BY APPROVED CERTIFIED WELDERS.

5. ELECTRODES FOR ALL FIELD AND SHOP WELDING SHALL CONFORM TO ASTM A233 (CLASS 70). ALL WELDS NOT SHOWN SHALL BE AWS MINIMUM. ALL WELDS SHALL DEVELOP THE FULL STRENGTH OF THE MATERIAL BEING WELDED.

6. SPLICING STRUCTURAL MEMBERS WHERE NOT DETAILED ON THE DRAWING IS PROHIBITED.

7. DURING THE CONSTRUCTION PHASE IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY, TEMPORARY SHORING AND BRACING TO MAKE THE STRUCTURE STABLE AND PLUMB BEFORE COMPLETION OF CONNECTIONS, STEEL FRAMES, SHEAR WALLS AND FLOORS.

8. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL THE STRUCTURAL FRAME IS PROPERLY SECURED TO THE LATERAL LOAD RESISTING ELEMENTS IN THE BUILDING. THE STABILITY OF THE FRAME DURING ERECTION IS THE CONTRACTOR'S RESPONSIBILITY.

9. ALL STEEL SHALL RECEIVE TWO COATINGS OF SHOP APPLIED PRIMER PAINT. TOUCH UP ALL WELDS, SCRATCHES OR SCRAPES IN PAINT AFTER ERECTION. GENERAL CONTRACTOR SHALL SELECT APPROPRIATE CORROSION PROTECTIVE PAINT COATING SYSTEM FOR ALL STEEL MEMBERS IF THE STRUCTURE REMAINS UNCONDITIONED.

10. TORCH CUTTING OR HOLE BURNING IS NOT ALLOWED, NO EXCEPTIONS.

WOOD FRAMING NOTES

1. ALL FRAMING LUMBER SHALL CONFORM TO THE LATEST EDITION OF THE AFPA "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", AND SUPPLEMENT "DESIGN VALUES FOR WOOD CONSTRUCTION", LATEST EDITION. MAXIMUM MOISTURE CONTENT SHALL BE 19%.

2. PRESSURE TREATED WOOD MEMBERS USED FOR PLACEMENT AGAINST CONCRETE OR MASONRY (SILLS, PLATES, ETC.) SHALL BE PRESSURE TREATED WITH ACQ PRESERVATIVE, OR APPROVED EQUAL, TO MINIMUM RETENTION OF 0.6 PCF IN ACCORDANCE WITH AWWA C3.

3. ALL EXPOSED WOOD MEMBERS USED FOR STRUCTURAL FRAMING, DECKING, STAIRS, RAILS, BRACING, ETC. SHALL BE PRESSURE TREATED WITH ACQ PRESERVATIVE, OR APPROVED EQUAL, TO MINIMUM DETENTION OF 0.6 PCF IN ACCORDANCE WITH AWWA C3.

4. ALL CONNECTORS, CONNECTIONS, FASTENERS, ETC. USED TO SECURE ACQ PRESSUE TREATED LUMBER SHALL BE TRIPLE ZINC COATED HOT DIPPED GALVANIZED OR STAINLESS STEEL.

5. THE FRAMING LUMBER SHALL BE OF THE FOLLOWING MINIMUM GRADE AND SPECIES FOR THE SPECIFIED USE. ALL LUMBER SHALL BE GRADE STAMPED BY A RECOGNIZED GRADING AGENCY AND SHALL BE KILN DRY. ALL WOOD WALL FRAMING (STUDS, SILLS, PLATES, BRIDGING, BLOCKING ETC. SHALL BE 2x6 SPF#2 OR VERSA-STUD 1.7 2650 AS MANUFACTURED BY BOISE CASCADE. VERSA STUDS AND COLUMNS SHALL HAVE A MINIMUM ALLOWABLE FIBER BENDING STRESS Fb=2,650 PSI, AND MINIMUM AXIAL COMPRESSIVE STRENGTH Fc=3,000 PSI; AND MINIMUM MODULUS OF ELASTICITY (E)=1,700,000 PSI. SIZE OF STUDS PER PLAN SPECIFICATIONS. ALL SPECIFIED PSL SHALL BE BY WEYERHAEUSER "PARALLAM PSL BEAMS", E-MOD=2.0x10^6 PSI, Fb=2,900 PSI, Fv=290PSI. FOLLOW ALL MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS IN HANDLING AND CONSTRUCTION.

6. LUMBER WHICH IS SPLIT, CRACKED, NOTCHED OR OTHERWISE ALTERED OR DAMAGED SHALL BE IMMEDIATELY REJECTED AND NOT ALLOWED FOR USE, UNLESS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

7. THE FRAMING LUMBER SHALL BE OF THE FOLLOWING MINIMUM GRADE AND SPECIES FOR THE SPECIFIED USE. ALL LUMBER SHALL BE GRADE STAMPED BY A RECOGNIZED GRADING AGENCY AND SHALL BE SURFACE DRY:

DIMENSIONAL LUMBER (FOR NON-EXPOSED MEMBERS):  
-FLOOR JOISTS & BEAMS: #2 SPRUCE PINE FIR: FB = 875 PSI, E = 1.4E6 PSI  
-STUDS: #2 SPRUCE PINE FIR: FC = 1150 PSI, E = 1.4E6 PSI  
-TIMBERS AND POSTS: #2 SPRUCE PINE FIR (5X5 & LARGER): FC = 500 PSI, E= 1.0E6 PSI

8. EXPOSED WOOD FRAMING SHALL BE SOUTHERN PINE, GRADE NO. 2 OR BETTER AND PRESSURE TREATED.

9. ALL LAMINATED VENEER LUMBER (LVL) TO HAVE A MINIMUM ALLOWABLE BENDING STRESS (FB) OF 2,600 PSI. THE MINIMUM ALLOWABLE COMPRESSION STRESS (FC) PERPENDICULAR TO THE GRAIN SHALL BE 750 PSI. THE MINIMUM ALLOWABLE MODULUS OF ELASTICITY (E) SHALL BE 1,900,000 PSI. INSTALL LVL'S IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. REFER TO FRAMING PLANS FOR HIGHER STRENGTH LVL MEMBERS, IF NOTED, WITH ALLOWABLE BENDING STRESS (Fb) OF 3,100 PSI, AND MODULUS OF ELASTICITY (E) OF 2,000,000 PSI (VERSA-LAM BY BOISE CASCADE).

10. DETAILS OF WOOD FRAMING SUCH AS NAILING, BLOCKING, BRIDGING, FIRESTOPPING, ETC. SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL DESIGN SPECIFICATION (AFPA), THE TIMBER CONSTRUCTION MANUAL (AITC).

11. ALL ENGINEERED LUMBER PRODUCTS SHALL BE AS MANUFACTURED BY WEYERHAEUSER, BOISE CASCADE, LOUISIANA PACIFIC CORPORATION OR APPROVED EQUAL.

12. USE FULLY NAILED METAL CONNECTORS (USP, SIMPSON, OR EQUAL), JOIST, OR BEAM HANGERS WHEN JOISTS OR BEAMS FRAME INTO OTHER JOISTS OR BEAMS. PROVIDE METAL POST CAPS AND BASES FOR ALL POSTS. REFER TO FRAMING PLAN FOR CONNECTOR TYPES.

13. ALL NEW PLYWOOD SHEATHING SHALL BE APPROVED BY THE AMERICAN PLYWOOD ASSOCIATION (A.P.A.) AS STRUCTURAL SHEATHING MATERIAL.

14. ALL NAILS, FASTENERS, AND CONNECTORS EXPOSED TO THE WEATHER SHALL BE HOT-DIP GALVANIZED. ALL CONNECTORS AND FASTENERS WHICH ARE USED WITH PRESSURE TREATED WOOD SHALL BE AISI 304 OR 316 STAINLESS STEEL.

15. ALL WOOD PRODUCTS SHALL BE STORED IN A DRY LOCATION. ENGINEERED LUMBER PRODUCTS WHICH ARE NOT KEPT DRY WILL BE IMMEDIATELY REJECTED AND REQUIRED TO BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.

16. IN NO CASE SHALL JOISTS, RAFTERS, BEAMS, POSTS, STUDS OR ANY OTHER FRAMING MEMBER BE CUT, NOTCHED, DRILLED, OR OTHERWISE MODIFIED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR SPECIFIED ON THE DESIGN DRAWINGS.

NOTES ON ROT OR DAMAGE REPAIRS:

1. THE EXISTING FRAMING HAS BEEN OBSERVED TO BE IN GENERALLY GOOD CONDITION, ONLY SHOWING FEW AREAS OF ROT AND DETERIORATION OR OTHER DAMAGE. REFER TO PLANS FOR SPECIFIED FRAMING MEMBERS IN AREAS OF REQUIRED STRENGTHENING. THE TYPICAL APPROACH SHALL BE TO LEAVE EXISTING MEMBERS IN PLACE AND ADD NEW REINFORCING STRUCTURE AS SPECIFIED.

2. REPLACEMENT OF SOME SECTIONS OF THE PERIMETER SILL BEAM IN-KIND MUST BE EXPECTED (EXACT QUANTIFICATION IS NOT POSSIBLE AT THIS TIME TO TO ACCESS LIMITATIONS).

3. A FEW AREAS OF ROT WERE OBSERVED DURING THE SITE VISITS, REPLACEMENT OF EXISTING FLOOR BOARDS AND POTENTIALLY REPLACEMENT OF EXISTING FRAMING MEMBERS IN KIND WILL BE REQUIRED IN THESE LIMITED AREAS.

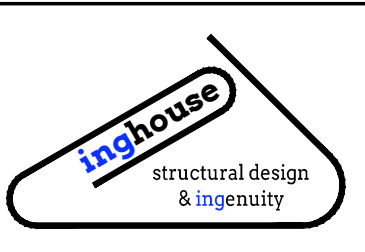
NOTES ON BUILDING LIFTING & SHORING:

1."BEAM POCKETS" FOR THE OPERATION & REMOVAL OF LIFTING AND SHORING BEAMS (PER SHORING CONTRACTOR) HAVE NOT BEEN SHOWN IN THIS SET OF PRICING DRAWINGS. TYPICAL BEAM POCKETS FOR SHORING OPERATIONS IN THE NEW FOUNDATION WALL ARE 24"x24" IN SIZE AND ARE PLACED 10-15FT O.C. (DEPENDING ON LIFTING & SHORING APPROACH). PLEASE NOTE, THAT ALL TEMPORARY BEAM POCKETS WILL REQUIRE THE PLACEMENT OF REINFORCING REBAR VIA DRILL & EPOXY INSTALLATION, MATCHING THE TYP. FDN WALL REINFORCING SIZES AND SPACING. ADDITIONALLY A CONTINUOUS WATERSTOP AT ALL COLD JOINTS IS REQUIRED: "HYDROTITE" BY GREENTREAK. ALL BEAM POCKETS SHALL BE CAST-IN-PLACE CONCRETE INFILL, CMU BLOCK INFILLS WILL NOT BE PERMITTED.

2. FIINAL SHORING METHODS AND LOCATION OF TEMPORARY ACCESS OPENINGS IN THE PROPOSED FOUNDATION WALL SYSTEM AS WELL AS TEMPORARY BRACING OF THE STRUCTURE DURING LIFTING AND/OR MOVING OPERATIONS MUST BE COORDINATED WITH AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

NOTES ON PRICING ALTERNATE FOR CHIMNEY RE-CONSTRUCTION:

IF THE OWNER IS REQUIRED TO RE-CONSTRUCT THE EXISTING MASONRY CHIMNEY, THE FOLLOWING GENERAL REQUIREMENTS SHALL BE MET:  
\* NEW REINFORCED CONCRETE FOOTING BELOW NEW CHIMNEY IN ACCORDANCE WITH LOADING REQUIREMENTS.  
\* 8" CMU BLOCK SHAFT CONSTRUCTION, REINFORCED VERTICALLY W/ #5 BARS @ 16" O.C. IN FULLY GROUTED CELLS, REINFORCED MASONRY BOND BEAMS AT 8 FT O.C. (VERTICALLY).  
\* CLAY BRICK VENEER SHALL BE NEW BRICK CONSTRUCTION W/ MASONRY VENEER ANCHOR TIES PER ENGINEERED SPECIFICATION TO CMU CHIMNEY SHAFT, TYP.  
\* THE CHIMNEY SHALL BE SELF SUPPORTING & NOT TIED TO THE EXISTING BUILDING STRUCTURE.



structural design  
& ingenuity

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SEAL:

REVISION

DATE

NUMBER

HISTORIC "CROSBY BARN" RENOVATION  
FOR  
CAPE REPERTORY THEATRE CO.  
GENERAL  
STRUCTURAL NOTES

PROJECT TITLE:  
132 LINNEA LANDING ROAD, BREWSTER, MA  
SHEET TITLE:

SCALE: AS NOTED  
DATE: 11/07/2014  
DESIGNED BY: LJ  
DRAWN BY: LJ  
PROJECT #: ING14022

S-100

PRICING SET  
-NOT FOR CONSTRUCTION-



SEAL:

REVISION

DATE

NUMBER

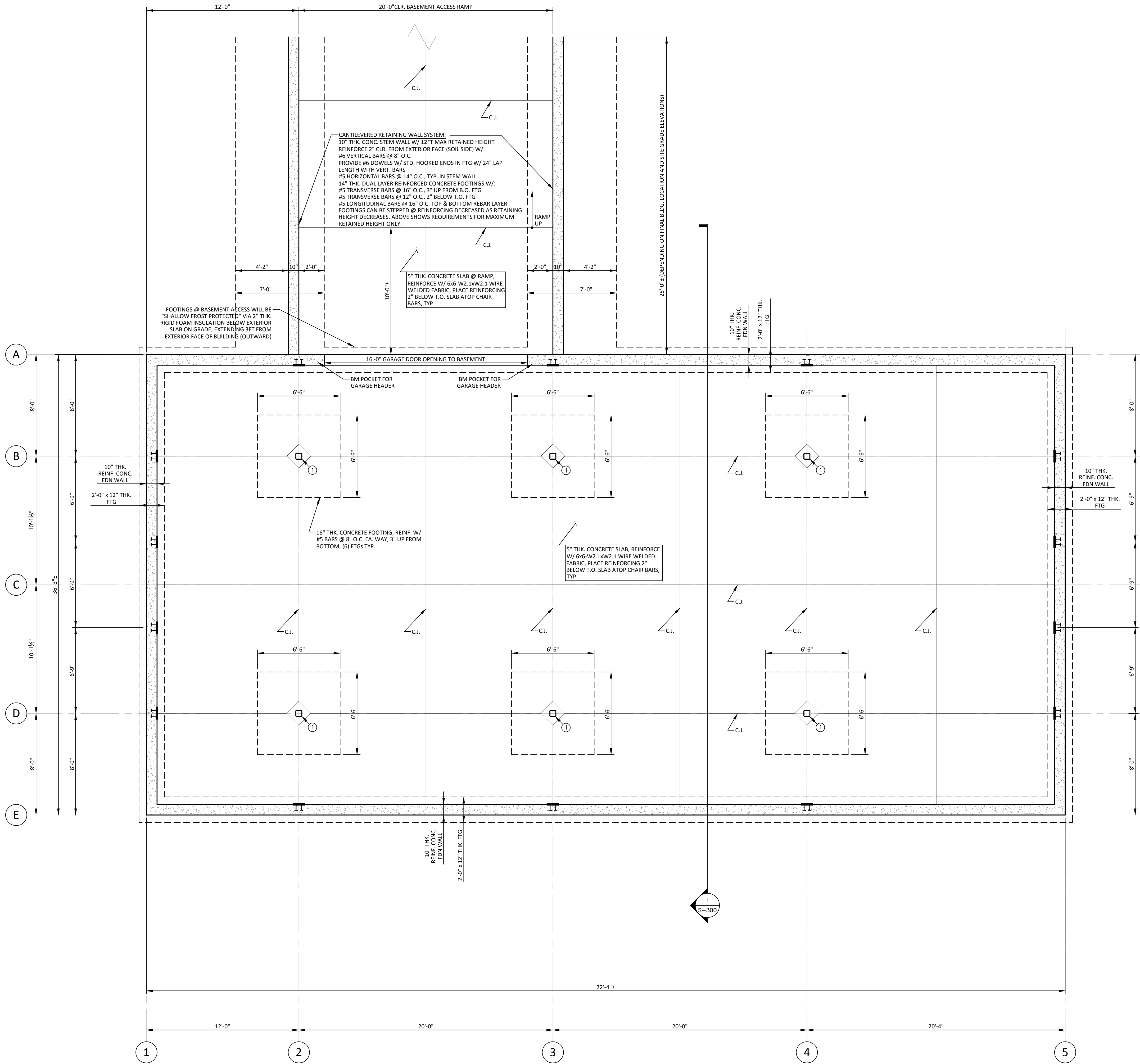
HISTORIC "CROSBY BARN" RENOVATION  
FOR  
CAPE REPERTORY THEATRE CO.

PROJECT TITLE:  
132 LINNEL LANDING ROAD, BREWSTER, MA

SCALE:  
DATE:  
DESIGNED BY:  
DRAWN BY:  
PROJECT #:

AS NOTED  
11/07/2014  
UJ  
UJ  
ING14022

S-200



NOTES:

1. THIS PLAN DOES NOT SHOW BEAM POCKET LOCATIONS OR SIZES FOR LIFTING BEAMS. COORDINATION W/ LIFTING CONTRACTOR IS REQUIRED. TYPICALLY 24" x 24" POCKETS ARE SUFFICIENT FOR SHORING/LIFTING BEAMS @ APPROXIMATELY 10FT TO 15FT O.C.

-PLEASE NOTE:-

ALL POCKETS FOR LIFTING/SHORING EQUIPMENT MUST BE FILLED W/ CAST-IN-PLACE CONCRETE AFTER PLACEMENT OF DRILLED IN REINFORCING BARS IN HORIZONTAL AND VERTICAL DIRECTION (TO MATCH TYP. WALL REINFORCING IN SIZE AND SPACING). PERIMETER OF POCKET REQUIRES PLACEMENT OF CONTINUOUS WATERSTOP ("HYDROTITE" BY GREENSTREAK).

2. THE FOUNDATION WALLS SHALL BE COATED WITH AN EXTERIOR SIDE DAMPPROOFING SYSTEM.

3. PLACEMENT OF A PERIMETER DRAINAGE PIPE IS TYPICALLY RECOMMENDED. PLEASE REFER TO CIVIL ENGINEERING RECOMMENDATIONS FOR THE SITE & SOIL CONDITIONS.

LEGEND:

STEEL EMBEDMENT PLATE, SEE TYPICAL DETAIL

CRACK CONTROL JOINT, SEE TYPICAL CONCRETE DETAILS

(N) HSS 5x5x 3/8 W/ 1'-0"x1'-0"x1" STL BASE PLATES, SHOP WELD STL COL VIA 3/8" FILLET ALL AROUND TO BASE & CAP PLATES, TYP. ATTACH TO FTG VIA (4) 5/8" DIA. ANCHOR BOLTS W/ 8" MIN. EMBEDMENT DEPTH INTO CONCRETE (DRILL & EPOXY W/ HILTI HY150 OR APPROVED EQUAL).

PRICING SET  
-NOT FOR CONSTRUCTION-

PROPOSED NEW FOUNDATION PLAN

SCALE: 1/4"=1'-0"



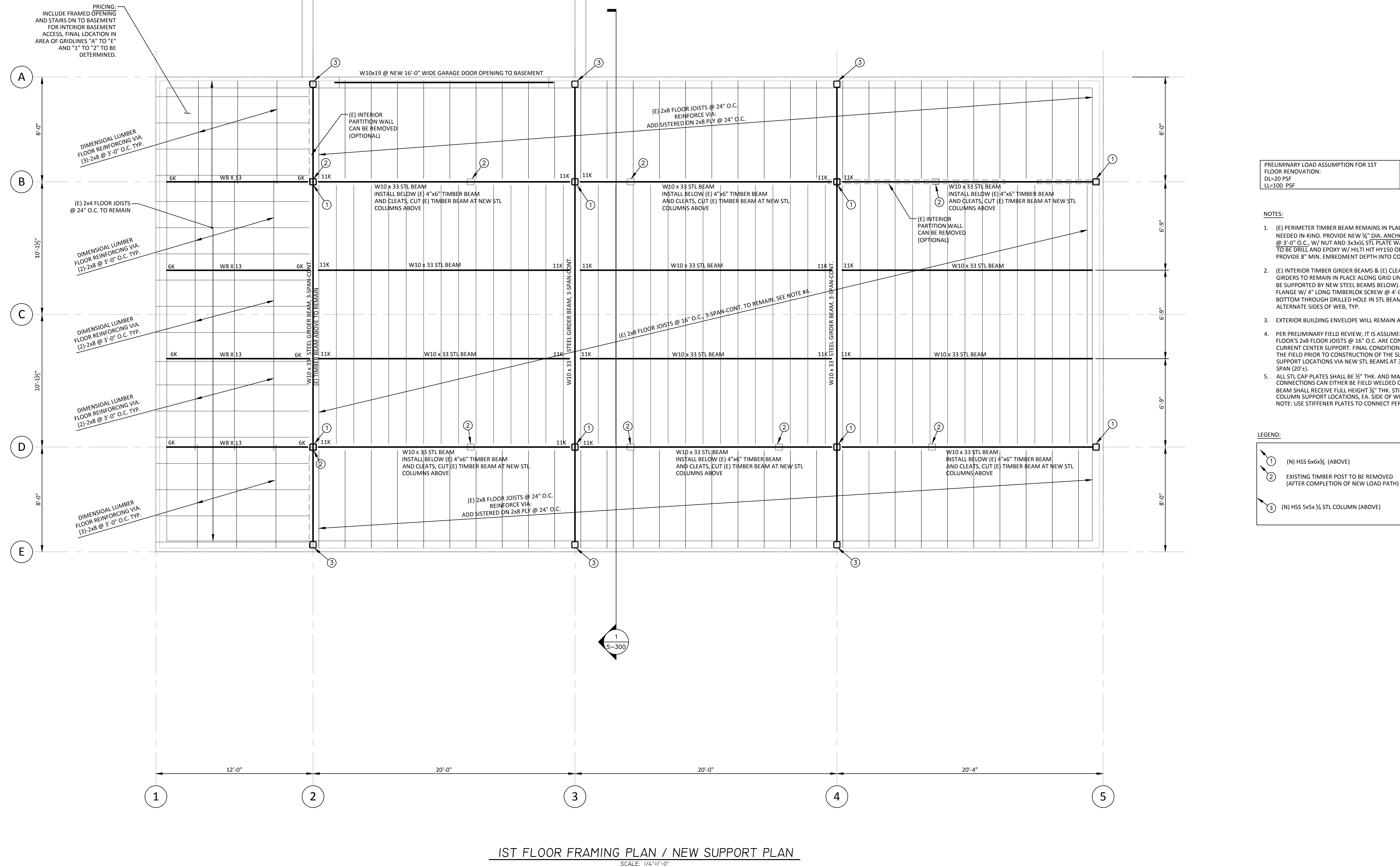
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NUMBER	DATE	REVISION

PROJECT TITLE:	1ST FLOOR FRAMING PLAN
SHEET TITLE:	(REINFORCING / SUPPORT PLAN OF EXISTING REMAINING FRAMING)
132 LUNNEL LANDING ROAD BREWSTER, MA	
FOR	
Cape Repertory Theatre Co.	
HISTORIC CROSBY BARN RENOVATION	

DATE:	AS NOTED
DATE:	11/07/2014
SIGNED BY:	LJ
DRAWN BY:	LJ
OBJECT #:	ING14022

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**PRICING SET  
-NOT FOR CONSTRUCTION-**

IST FLOOR FRAMING PLAN / NEW SUPPORT PLAN

SEAL:

REVISION

DATE

NUMBER

PROJECT TITLE:  
HISTORIC "CROSBY BARN" RENOVATION  
FOR  
CAPE REPERTORY THEATRE CO.

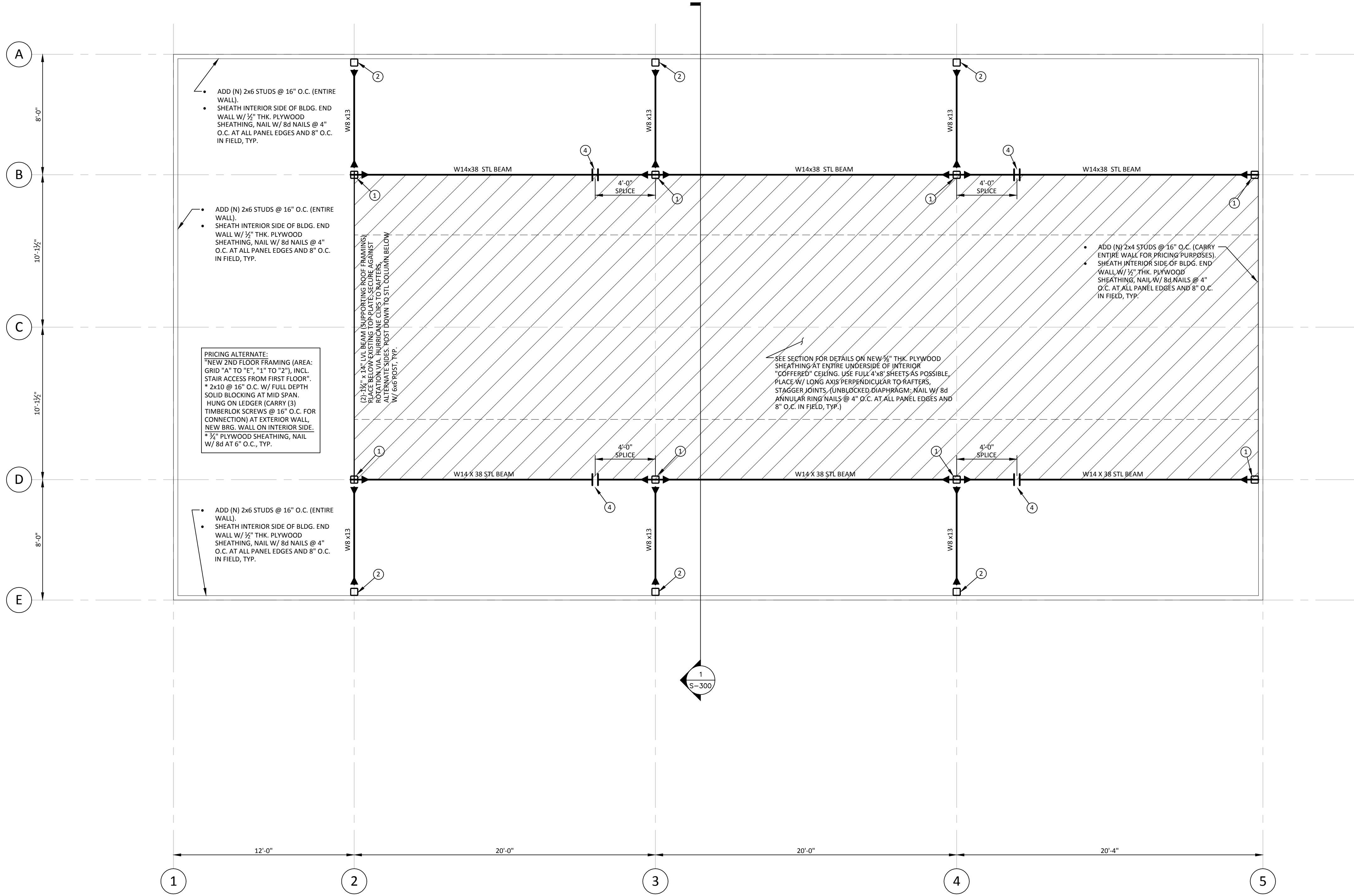
132 LINNEL LANDING ROAD, BREWSTER, MA

ATTIC LEVEL FRAMING PLAN

(STL BRACING PLAN)

SCALE: AS NOTED  
DATE: 11/07/2014  
DESIGNED BY: LJ  
DRAWN BY: LJ  
PROJECT #: ING14022

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- NOTES:
- ALL (E) ROOF FRAMING TO REMAIN, REPAIRS AND STRENGTHENING WILL BE REQUIRED AS NOTED.

- LEGEND:
- STEEL MOMENT CONNECTION
  - (1) HSS 6x6x $\frac{3}{4}$  STL COLUMN BELOW STL GIRDER BEAM
  - (2) (N) HSS 5x5x $\frac{3}{4}$  STL COLUMN, HANG W8 TO SIDE OF HSS COL W/ MOMENT CONNECTION
  - (3) SIMPSON "H2.5A" HURRICANE TIES @ 24" O.C., ALTERNATE SIDES ON ROOF RAFTERS
  - (4) SINGLE PLATE CONNECTION (BOLTED/WELDED) @ SPLICE:  
 $\frac{3}{8}$ " THK. STL PLATE, WELD (3) SIDES W/  $\frac{3}{4}$ " FILLET, BOLT W/ (4)- $\frac{3}{4}$ " DIA. ASTM A325

PRICING SET  
-NOT FOR CONSTRUCTION-

PROPOSED ATTIC LEVEL FRAMING PLAN  
SCALE: 1/4"=1'-0"



REVISION

DATE	NUMBER
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FOR  
CAPE REPERTORY THEATRE CO.  
HISTORIC CROSBY BARN RENOVATION

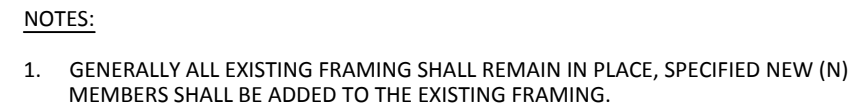
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ROOF FRAMING  
STRENGTHENING PLAN

PROJECT TITLE:	132 LINNELL LANE
SHEET TITLE:	
SCALE:	AS NOTED
DATE:	11/07/2014
DESIGNED BY:	LJ
DRAWN BY:	LJ
PROJECT #:	ING14022

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**LEGEND:**

NEW (2)-1 $\frac{3}{8}$ " x 5 $\frac{1}{2}$ " LVL ("DRAG STRUT"), TYP. ALIGNED W/ W8 STL MOMENT FRAME HEADER.  
REFER TO SECTION FOR CONNECTION DETAILS.

- 1 PROVIDE (N) 2x6 STUDS @ 16" O.C. AT ATTIC LEVEL.  
PLACE NEW STUDS ON INTERIOR SIDE OF (E) HORIZONTAL FRAMING.  
CONNECT VIA NAIL/SCREW CONNECTION FROM EXTERIOR SIDE TO (D) BOARD SHEATHING/ REPAIRED BOARD SHEATHING (APPROX. 25% EXTERIOR BOARD SHEATHING REPAIRS AT THE GABLE END) WALL
- 2 PROVIDE (N) FULL DEPTH SOLID 2x BLOCKING BTWN ROOF RAFTERS AT RIDGE. BLOCKING SHALL BE TOE NAILED TO RAFTER FACE, TOP. PROVIDING SIMPN "C5-16" COIL STRAP ON UNDERSIDE OF BLOCKING, CONTINUOUS ALONG ENTIRE LENGTH OF RIDGE.  
AND 2x6 COLLAR TIES @ 48" O.C., DIRECTLY BELOW BLOCKED RIDGE LINE (AFTER COIL STRAP INSTALLATION), FACE NAIL EACH END W/ (4)-10d NAILS, TYP.
- 3 PROVIDE (N) FULL DEPTH SOLID 2x BLOCKING BTWN ROOF RAFTERS DIRECTLY ABOVE THE JOIST CONNECTION. TOE NAIL BLOCKING TO RAFTERS, TYP.
- 4 CONNECT EA. (E) RAFTER END WITH 8" LONG TIMBERLOK SCREW, DRIVEN VERTICALLY FROM TOP DOWN INTO THE CENTER OF THE EXISTING TIMBER GIRDER BEAM. SCREWS MUST HAVE A MINIMUM OF 3" EMBEDMENT DEPTH INTO TIMBER GIRDER, TYP.
- 5 CONNECT EA. (E) RAFTER END WITH 8" LONG TIMBERLOK SCREW, DRIVEN AT APPROX. 30 DEG FROM VERTICAL FROM INTERIOR FACE THROUGH STUD, AND WALL TOP PLATE INTO CENTER OF ONE RAFTER PLY, PROVIDE 3" MIN. EMBEDMENT DEPTH, INTO RAFTER, TYP. SCREW HEADS CAN BE DRIVEN FLUSH WITH INTERIOR FACE OF STUD (AND CONCEALED BEHIND NEW FINISHES).
- 6 EXISTING RIDGE BOARD TO REMAIN, AND 2x6 COLLAR TIES @ 48" O.C., DIRECTLY BELOW EXISTING RIDGE BOARD, FACE NAIL EACH END W/ (4)-10d NAILS, TYP.

**PRICING SET  
-NOT FOR CONSTRUCTION-**

PROPOSED ROOF FRAMING STRENGTHENING PLAN  
SCALE: 1/4"=1'-0"

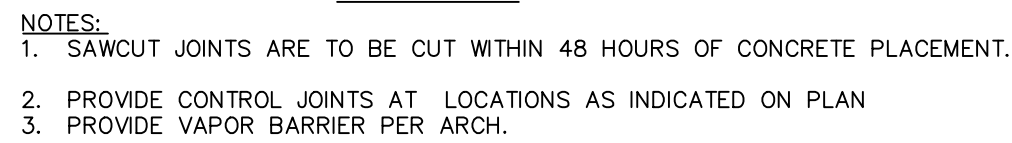


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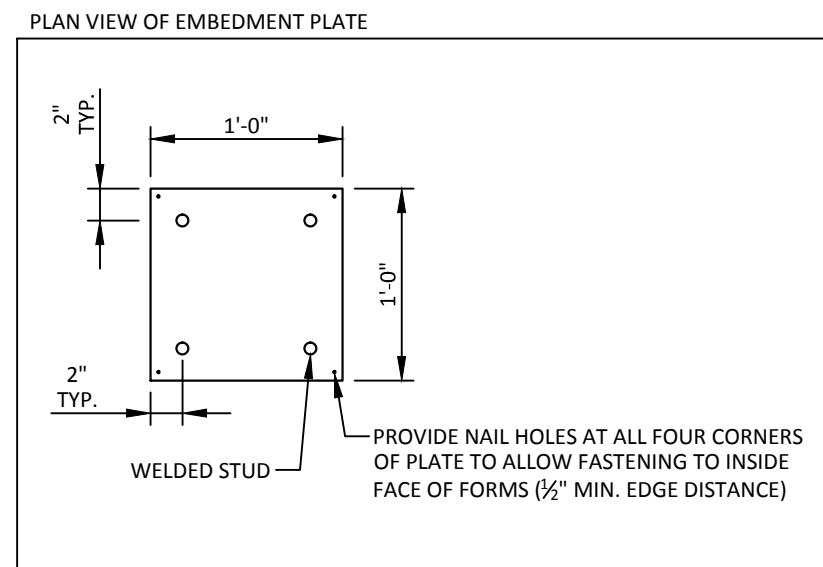
HISTORIC KROSBY BARN RENOVATION  
FOR  
CAPE REPERTORY THEATRE CO.  
SECTIONS & DETAILS

PROJECT TITLE:	132 LINNELL LANE	SHEET TITLE:
SCALE:	AS NOTED	
DATE:	11/07/2014	
SIGNED BY:	LJ	
DRAWN BY:	LJ	
PROJECT #:	ING14022	

S-300



- ① (N) KNEE WALL ABOVE (N) STL GIRDER BEAM, FRAME W/ 2x6 STUDS @ 24" C. TO ALIGN STUDS W/ ROOF RAFTER ABOVE, PROVIDE BEVELLED TOP PLATE, SHEATH W/ 3/4" PLYWOOD, NAILED W/ 8d NAILS @ 4" C. TOP, TYPE.
- ② (N) KNEE WALL ABOVE (N) STL MOMENT FRAME HEADER, FRAME W/ 2x4 STUDS @ 16" C., ALIGN STUDS W/ ROOF RAFTER ABOVE, SHEATH ONE SIDE W/ 3/4" PLYWOOD, NAILED W/ 8d NAILS @ 4" C. TOP, TYPE.
- ③ (N) TOP PLATE W/ 3" LONG TIMBERLOK SCREWS @ 8" C. TO LVL DRAG STRUT ABOVE, CONNECT BOTTOM 2x4 PLATE VIA "P.A.F.", E.G. HULTI "X-DOS" @ 8" C. STAGGERED TO TOP FLANGE OF STL GIRDER BEAM
- ④ 3/4" THICK x 4" WIDE STEEL SIDE PLATES, (2) PER CONNECTION.  
CONNECT W/ 2"x 3/4" DIA. ASTM A307, GR. "A" THROUGH BOLTS TO EACH LVL DRAG STRUT END. PROVIDE 2" END DISTANCE ON STL PLATE, 3" SPACING, 7" END DISTANCE ON LVLM MEMBER FOR THRU BOLTS. CENTER BOLTS ON STL PLATES AND FACE OF LVLM DRAG STRUTS, TYP.
- ⑤ NEW PLYWOOD SHEATHING ON UNDERSIDE OF THE JOISTS/RATERS  
(CURRENTLY COVERED W/ PARTIALLY WOOD FINISH CLADDING, SEE PLAN FOR NAILING REQUIREMENTS).
- ⑥ (E) TIMBER GIRDER BEAM (TYP. ALONG GIR LINES "B" AND "D") TO REMAIN, BOLT TIMBER BEAM TO SIDE OF NEW STL GIRDER BEAM W/ 3"x 3/4" DIA. ASTM A307, GR. "A" THRU BOLTS STAGGERED @ 12" C. PROVIDE 3" EDGE DISTANCE ON TIMBER, TYP. 2" DIA. HARDENED WASHER REQUIRED ON FLAT SIDE. COUNTERSINK BOLTS ON INTERIOR FACE.  
NEW 2x BLOCKING ON TIMBER BETWEEN (E) ROOF RATERS AND (E) TIMBER GIRDER BEAM, NAIL BLOCKING W/ (2) ROWS OF 8d NAILS @ 3" C. TO TIMBER GIRDER, DIAPHRAGM EDGE NAIL NEW INTERIOR SHEATHING TO BLOCKING W/ 8d NAILS @ 3" C. TOP, TYP.
- ⑦ NEW (2-1/2"x 5 1/2" LVL ("DRAG STRUT") TYPICALLY ALIGNED W/ W8 STL MOMENT FRAME HEADER (E) ROOF RATERS TO REMAIN IN PLACE & CAN BE INCORPORATED INTO DRAG STRUT IF NEEDED. NAIL NEW INTERIOR NAILING 3"x 3/4" THK SHEATHING ON UNDERSIDE OF DRAG STRUT W/ (2) ROWS OF 8d ANULATED RING BOLTS @ 12" C. (E.A. ROW INTO ONE PLY OF LVL DRAG STRUT), STAGGER ROWS.



**PRICING SET  
-NOT FOR CONSTRUCTION-**

**NOTE FOR TYP. STL CAP PLATES:**  
ALL STL COLUMNS SHALL RECEIVE 1/2" THICK A36 CAP PLATES TO MATCH WIDTH OF ABOVE BEAM FLANGE AND PROVIDE LENGTH TO ALLOW CONNECTION VIA (4) 3/4" DIA. ASTM A325 THROUGH BOLTS W/ MIN. 1 1/4" EDGE DISTANCE, TYP. ALL CAP PLATES SHALL BE WELDED ALL AROUND VIA 3/4" FILLET WELD TO STL COLUMN, TYP.